

AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

ORANGE JUDD, A.M.,
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May.

"The careful hen
Calls all her chirping family around,
Fed and defended by the fearless cock,
Whose breast with ardent flames as on he walks,
Graceful, and crows defiance. In the pond
The finely checkered duck before her train
Rows garrulous. The stately-sailing swan
Gives out his snowy plumage to the gale;
And, arching proud his neck, with oary feet
Bears forward fierce, and guards his osier isle,
Protective of his young."—THOMSON.

We affect poultry in all its variety, from the lordly turkey to the cooing dove, in all its phases of life and death. They are charming with the feathers on, and not less so with the feathers off, undressed for life, but dressed for their last appearance at the festive board, where they go the way of all flesh. They are both ornamental and useful, valued friends in life, and in death leaving pleasing memories behind them. To the epicure, their last days are their best days, and the glory of the gobbler culminates, not in his shining plumage, and not in his aristocratic strut, but in his last appearance upon the table.

Our sanctum is not far from the poultry yard, and these lines are written amid the suggestive sounds of cackling hens. There is inspiration for the writer upon rural themes, in the crowing of cocks, the quacking of ducks, the gabble of geese, the cooing of doves, and all the varied

sounds of the farm yard. We love to call the whole feathered tribe around us, and watch them as they take their morning meal, and separate, going whither their instincts lead them—the turkeys to the fields and woods, the ducks and geese to the pond, and the hens and guinea fowls to the barn and garden. We admire the beautiful iridescence upon the plumage of the turkey, and the dove, the snowy whiteness of the ducks and geese, and the endless variety in the hues of the cocks and hens. We love to study their habits and mental traits, the chivalry of the cock, his pugnacity and pluck, his industry and self denial in providing for the feathered dames of his household; the fierce tenderness and devotion of the hen in sheltering and protecting her brood; the triumphant rapture of the geese as they lead their newly hatched goslings to the stream, where they are to find their daily food and their pleasure; the shyness of the turkey hen in stealing her nest and filling it with eggs, before one suspects she has laid; the endless bowings and congratulations of the ducks in every puddle, upon all occasions.

No first class residence in the country is complete without these feathered tribes. It adds as much to the charms of the sylvan lake, to see its mirror surface broken by water fowl, as it does to the extensive lawn, to behold here and there, grazing cows, and flocks of sheep. The beauty of an object is only perfect, when there is some seeming use for it. The cropped lawn is no longer a wide expanse of verdure. It is a pasture ground, and the grasses are ministering to animal wants. Their manifest enjoyment as they graze or lie down in the shade, adds to our own, as we look out upon the landscape. So our esthetic nature is pleased when the stream or pond is covered with fowls. Every man of taste enjoys the picture which Mason gives us of such an English residence:

"Hence did the lake, the islands, and the rock,
A living landscape spread; the feathered fleet,
Led by two mantling swans, at every creek
Now touched, and now unmoored; now on full sail,
With pennons spread, and oary feet, they piled
Their vagrant voyage; and now as if becalmed,
'Tween shore and shore at anchor seemed to sleep.
Around those shores the fowl that fear the stream
At random rove; hither hot Guinea sends
Her gadding troop; here midst his speckled dames,
The pigmy chanticleer of Bantam winds
His clarion; while, supreme in glittering state,
The peacock spreads his rainbow train, with eyes
Of sapphire bright, irradiate each with gold.
Meanwhile from every spray the ringdoves coo.
The linnets warble, captive none, but lured
By food to haunt the umbrage; all the glade
Is life, is music, liberty, and love."

It is well for gentlemen who have the means, and the leisure to indulge their tastes in these rural embellishments, to stock their grounds and lakes with rare birds and water fowls. The peacock and swan are aristocratic birds, and so little useful, except as ornaments, that they are out of place except in pleasure grounds. The

farmer, whose necessities require his daily toil, can hardly find place for them upon his premises.

But most of the fowls that have been domesticated, are more useful than ornamental, and contribute directly to the farmer's thrift. The labor expended upon them is directly profitable, and by those who are skilled in the business, the poultry yard is thought to pay much better than many other departments of husbandry.

If the farmer have a running stream or pond near the house, there is no good reason why he should not have geese and ducks. They will become objects of interest to the boys and girls, and will train them to habits of industry. They are full of life themselves, and they like to see life in all its variety. It will break up the dull round of plowing and hoeing, to feed dough and cracked corn to the chickens, to see them safely housed at night, to watch the clutches of turkeys as they come off, and see that they do not stray too far in the dewy grass in these May mornings. These cares of the young birds impress the heart of boyhood, and girlhood, as nothing else will. Who that has been trained in a farm house, does not remember the chilled chicken, wrapped in wool and put in a basket by the kitchen fire; the hen with broken leg and splints; the drooping gosling, that could not keep up with the flock; the sick duckling crawled away into the wall to die? There is a great deal of education in the poultry yard, and it is none the less valuable for our children because it helps pay our bills, instead of making out bills against us for schooling. Anything is to be prized that weds the heart of the child to the farm, that makes his affections take root in the soil. Work is thus beguiled of its drudgery, and the boy grows into industrious habits, without that conscious repugnance, which all children feel toward unattractive labor.

Most farmers keep fowls, but comparatively few have a poultry house, or any suitable accommodations for them. There is as much profit in housing them, and in feeding them well, as in caring for any other domestic animal. We have, for several years, kept accurate accounts of debt and credit with a flock of hens, and have found them to average about a dollar each, above the expense of feeding. Geese are not so profitable, for they are much more uncertain in pairing and in hatching. Turkeys, where they have a good range, often pay much better. They usually lay more eggs than they can cover, are quite sure in the hatching, and if kept within bounds for a few days, and out of wet grass, the young thrive as well as chickens. In whatever light we look at this bird, he stands at the head of the poultry yard. No sight can be grander around the farm house than the full grown cock, strutting among the beauties of his harem. Throughout the civilized world he is associated with festivity and good fellowship, and in all our borders, the name is almost synonymous with our only social festive anniversary.

Calendar of Operations for May, 1861.

[We note down sundry kinds of work to be done during the month, to call to mind the various operations to be attended to. A glance over a table like this will often suggest some piece of work that might otherwise be forgotten or neglected. Our remarks are more especially adapted to the latitudes of 38° to 45°; but will be equally applicable to points further North and South, by making due allowance for each degree of latitude, that is, earlier for the South, and later for the North.

EXPLANATIONS.—*f* indicates the first; *m*, the middle; and *l*, the last of the month.—Doubling the letters thus: *ff*, or *mm*, or *ll*, gives particular emphasis to the period indicated.—Two letters placed together, as *fm* or *ml*, signify that the work may be done in either, or in both periods indicated; thus, work marked *fm*, indicates that it is to be attended to from the first to the middle of the month.]

Farm.

The cultivator will be at no loss for steady employment during this month. The sowing of Spring grains is to be completed, the remaining stock of manure carted out, the ground prepared for hoed crops, and in most sections the planting of corn finished—in cold latitudes the bulk of the latter crop is often safely deferred until about June 1st. The forwardness of the season will, of course, be taken into account in getting in any crop. For corn, especially, it is essential that the ground be warm and dry enough to give a rapid start, and this is measurably true of other crops—a strong growth in the beginning is almost half the battle. Stagnation in business and depression in prices should not be permitted to discourage from sowing and planting a good breadth of grain. There must under any circumstances be a demand sufficient to make crops remunerative—all the more so if a large number of producers are withdrawn from active industry in consequence of disturbances in the nation.

Beans will often succeed on moderately fertile soils, where corn would not pay. They are always marketable, and are valuable for home use, and for feeding, especially to sheep. Prepare the ground as for corn, and plant white bush varieties in drills $2\frac{1}{2}$ feet apart, *m, l*. Drop the seed 3 to 4 inches apart.

Bees are very properly attracting increased attention. A moderate apiary can be easily attended to with little expense and trouble, and with great profit. Ample directions for operations this month, are given under "Apiary" on a subsequent page.

Broom Corn—Plant, *m, l*, in hills three feet apart each way, or in drills four feet distant. Thin to eight inches in the row, at the first hoeing. Favorable reports have been received from several who experimented with the dwarf variety last season. This may be drilled in rows three feet apart.

Buildings—A good coating of paint will save its cost many times in the preservation of all buildings. Apply it before hot weather comes on, if to be done this season. Remove all litter from unused stalls and the bottom of bays, before it becomes a harbor for rats and mice, which soon take possession when the premises are left undisturbed. See "Sparted Floors," p. 141.

Cabbages—Plant out from hot-beds, *ff, m*, in heavily manured mellow ground, if not already done for first crops. Read "How to Transplant," on page 143. Reserve enough plants to immediately replace any destroyed by cut worm or otherwise. Examine for worms and destroy them when found.

Calves—Mix oatmeal or shorts with skimmed milk for their feed as they grow older—giving but little at first, and gradually increasing the quantity. Allow them a little fine hay until the grass starts sufficiently to furnish a cud. Castration of the male is most safely performed at about a month old.

Carrots may still be sown, *ff*; last month was the better time. Read article on page 149.

Cattle—Continue to fodder until there is abundance of grass. They will relish a little hay at night even after turned to pasture. Keep up the flow of milk by feeding cows with wet bran, shorts, and roots if any remain, until the pastures are in full growth. Feed grain to working cattle according to the severity of their labors. Potatoes or other roots once or twice a week will keep up their appetite.

Cellars—Dampness or decaying matter in the cel-

lar will injure the furniture and impair the healthfulness of the rooms above. Give free ventilation, remove all offensive substances, and keep the sides and ceiling well whitewashed.

Clover—Sow, *f, m*, where it is wanted to enrich the soil by plowing it under while in blossom. Though quite late, it may yet catch if sown on Winter grain, *ff*.

Corn—Prepare the ground, *f, m*, and leave it until warm weather is established. The old rule is, to plant when oak leaves are as large as a mouse's ear. If heavy greensward be broken up this Spring, do not cross-plow, and be careful not to disturb the sods in harrowing and marking out the ground. The fermenting sods will afford warmth and nutriment to the growing shoots. Examine seed carefully and reject all injured by frost. See page 138. It is always useful to soak the seed, or at least wet it, and dry off with lime or plaster. We prefer wetting with a thin mixture of tar and water.

Dairying labors will increase this month. Provide abundant feed for the cows, a cool and neat room and convenient vessels for the milk, and conduct every operation, from milking to packing the butter, with scrupulous cleanliness. Be in no haste to buy a patent churn which is warranted to bring butter in four minutes or less—we know of no apparatus that will produce a good article in that time.

Cranberries may be planted any time this month. The Fall is a better season for grounds which are to be flooded. Secure fresh plants of the Bell variety, particularly for uplands. If cuttings be used, let them be five or six inches long, insert the middle in the soil, leaving the two ends projecting. Set them eighteen inches apart.

Draining—Read the articles now in course of publication in the *Agriculturist*.

Fences—Keep all in repair, particularly boundary and road fences, and around pasture lots where young cattle are confined. If they once become unruly, an ordinary fence will not restrain them.

Flax culture promises to become more remunerative in future, from recent improvements in preparing the fiber. This crop and Hemp should be got in, *ff, m*.

Grain Fields—A top dressing of plaster will often prove beneficial. Guano, lime, or wood ashes, sown liberally before the seed is covered, will benefit heavy soils. Keep all stock from fields newly sown, and from Winter grain. Pull out weeds as soon as they are plainly visible among wheat, rye, or barley.

Grass Seed—Sow, *ff*, upon grain fields not already seeded, and on poor meadows. Use plenty of seed.

Hedge Rows thrive and spread by being let alone. Tear them out by the roots, not only along the fences, but by the roadsides to prevent further encroachment. If time can not be taken for this, turn a flock of sheep upon them to eat off the young sprouts as they appear, which will destroy some, and keep all in check.

Hoeing will be necessary in many sections before the close of the month. Use the horse-hoe or cultivator where practicable. If hand hoeing is required, use a light and sharp steel hoe, with which the labor can be performed better and with less fatigue than with a poor implement.

Horses—Keep them in good condition during Spring work, by generous feed and thorough grooming. An experienced horseman recommends a frequent allowance of boiled potatoes with grain, which the horses will soon learn to relish. When not in use they will fatten rapidly upon this feed. See "Galls on Horses," page 141.

Lime—Use according to suggestions given in recent previous numbers. See page 104 (April No.).

Lucerne is profitable in some locations. It requires deep soil with open subsoil, on which it thrives year after year without renewal, and furnishes valuable feed, particularly for soiling, as it can be cut several times in a season. Use 10 to 12 quarts per acre. Sow, *ff, m*.

Manures, particularly from the stable, are better applied to land in hoed crops, than to fields devoted to spring grain, which is apt to grow rank and

lodge on highly manured ground. Corn is a gross feeder, and should be well supplied with all that can be profitably used. The effects of heavy manuring the first hoed crops will be visible years after in the oats, winter grain, and grass which follow. Buy manure only as a last resort, after all available supplies on the farm are exhausted. Bone dust, and Peruvian guano, where a good article can be obtained, are the best articles in market, for general use.

Meadows—Allow no grazing on meadow lands in Spring. Keep in good condition by top-dressing with fine compost, before the grass has advanced much, or apply guano, ashes, or plaster, early this month. Keep the sluiceways open, which carry wash from the road or from the barn yard, and arrange them so as to spread the fertilizing matter over a wide space.

Oats—Sow, *ff*, if not already done.

Onions—Complete sowing, *ff*. Last month was a better period. For complete directions, consult, "Onion Culture," published at this office.

Peas for feeding out may be sown, *ff*. A low growing variety put in with oats, will be partially supported by the grain, and both will yield a good crop in a favorable season.

Plowing—Much labor is saved by properly laying out the lands at first. Long ridges, where practicable, save time in turning. With a ridge of 78 yards long it has been found that in 10 hours work, 5 hours and 11 minutes were occupied in the turnings, while in a ridge 274 yards long the time for turnings was only 1 hour 22 minutes. Keep the furrows straight, and direct the plowman to mend all "balks;" much after culture will thus be saved. For corn, subsoiling is preferable to turning up much of the crude soil underneath; it may often be done cheaply by following in each furrow with a light one-horse plow.

Potatoes—Plant, *ff*, if not already completed. Manuring heavily pays in this crop. Cutting the tubers into pieces containing one or two eyes, and allowing them to dry considerably before planting, is claimed to be a preventive of rot. Experiment with a small plot in this manner. Read "Potatoes Cheaply Grown for Market," page 139.

Poultry—Keep up their laying by liberal feed of grain, boiled potatoes, etc. Allow them to leave their yard an hour or two before sundown, when they will not do much injury by scratching in the garden, etc. Keep the mother of a brood confined in a portable coop, and allow the young chickens to roam in the garden and fruit yard where they will destroy many insects. Feed young poultry with cracked corn instead of meal, increasing the size as they grow older, until they can manage whole corn. Milk curds are very wholesome food for them. Set eggs, *ff, m*, for late chickens. Read articles on page 142.

Provisions—Pork in barrels in the cellar, hams in the smoke-house, and other provisions, need looking after occasionally. See that the brine is of sufficient strength, and covers the meat in barrels—rusty pork is a poor article of diet. Hams sowed in thin muslin bags, and whitewashed, will not be troubled by the fly. Keep them dry and cool. A good method to keep hams through the Summer, as we have proved, is to pack in barrels or bags with plenty of sweet, cut hay around them.

Pumpkins—Cheese pumpkins are about the best variety for cooking. Keep them separate from other vines of the same family. Plant in cornfields a liberal supply of the common sort for feeding stock.

Root Crops—Try a plot of mangel wurzels, or carrots this year, if they be not already sown. They will pay as a relish for stock when confined to dry hay.

Rye—Spring Rye may still be sown in many localities.

Sheep—Care for as directed last month. Wash, *m*, if the weather be sufficiently warm, and shear, *ll*, or early in June. Watch for the first symptoms of foot rot, and treat according to directions on p. 141.

Soiling—Sow rye and clover, *ff*, corn and millet, *m, l*, for cutting and feeding green. This prac-

tice is gaining favor on small farms adjacent to cities, for which localities it is especially adapted.

Sorghum—The good returns received from cultivation of this plant and manufacturing syrup and sugar in the Western States, will undoubtedly stimulate more extended culture this year. Any difficulty in getting sugar from the South, will furnish additional reason for producing more sweetening at the North. Procure seed only from reliable sources—several inferior sorts have caused much disappointment. Prepare the ground as for corn, plant, *f*, *m*, and cultivate the same as corn. It is also a good crop for soil, for which sow broadcast or in drills, *f*, *m*, *l*.

Swine—Give plenty of nourishing food to sows with their litters. The best pork is obtained from pigs kept fat from the commencement. If bran, shorts, or meal be given, mix with sour milk, or water, and allow it to ferment before feeding out. Cooked food is economical; a steaming apparatus should be attached to every establishment where many swine or other animals are kept for fattening. Read article, "Family Pig," page 142.

Tobacco—Keep the young plants free from weeds, and transplant, *m*, *l*, to deeply tilled and heavily manured soil. Set the plants in rows three, to three and a half feet apart, and two and a half, to three feet distant in the row.

Tools, Machines, etc.—Improve rainy days in the farm workshop, repairing all that may need it, washing and oiling harness, etc. Examine and decide on mowers, reapers, horse pitch-forks, etc., and procure before the season of their use comes on. See that all implements are stored in their places when out of use.

Weeds—Read "A Thousand at one Pull," p. 138.

Orchard and Nursery.

Although most of the deciduous trees should have been planted last month, there are doubtless some yet to be set; these need immediate attention. It is very desirable to move them before they commence the season's growth, and before dry weather. If the orchard has not been set out, better do it even now, than wait another year. More care will be required to keep the roots from exposure, and to preserve the buds from injury, but there need be little risk. The early growing kinds, such as cherries, pears, and peaches should be planted first.

In the Nursery, the hurry of business is not yet over, much of the planting being necessarily delayed while taking up, packing, and sending away early orders. Many of the stocks, having been kept in the cellar, are still in good planting condition. Besides, this is the evergreen planting month, and so largely are these ornamental trees now grown to supply the constantly increasing demand, the nurserymen are still pressed with business. As soon as the planting and transplanting is over, ground should be spaded, where it can not be plowed, and the plow or horse-hoe run through the nursery rows, adding manure where needed.

Apple Trees, from the backwardness of their growth, may be set out later than some others, but should be transplanted, *f*. Cut back a portion of last season's growth, before transplanting.

Budded Trees—If not done last month, cut away the growth above the buds inserted last season, unless they have failed to take. Leave a few inches of the main stem above the cut, to which the new growth may be tied, *l*, for support. Remove all suckers.

Evergreens will be putting forth their new growth this month, and being in full vigor, are better able to bear transplanting than at any other season. Make a good selection of hemlocks, firs, pines, and especially Norway Spruces, etc., for ornament and shelter, with arbor vitae for screens, and transplant, *m*, *l*. Keep the roots as much as possible from exposure to sun and wind; they suffer more than deciduous trees, owing probably to the resinous quality of the sap which hardens easily, and stops the circulation. Choose a wet day, take up plenty of earth with them,

and give sufficient room for the lateral roots in the new location.

Grafting may still be done, *f*, and even, *m*, if the clones were cut early in the season, or better still in the Fall or Winter. Rub off suckers from limbs grafted last season.

Head back the leading shoots of pear and apple trees, especially those inclined to a strong, upright growth. Peach trees are improved by cutting back one-third of the last season's growth, not only upon the top, but among the outer branches. Dwarf pears are also greatly benefited by a free heading back. Cut near a bud upon the side where the leading shoot is desired. Open spaces can thus be filled with branches, and a proper balance maintained.

Hoe between nursery rows and about the trunks of orchard and other trees.

Inarching—Perform this upon growth of last season, as illustrated on page 117, April *Agriculturist*. This method is particularly applicable for small trees and shrubs growing in pots.

Insects will breed rapidly this month unless kept in check. If caterpillar eggs have not been destroyed the nests will soon show themselves and should early be destroyed. A brush made for the purpose is a very convenient implement. Tie it upon a pole, twist it into the nest, and trample the whole under foot. Treat cherry and pear slugs to a solution of oil soap, or dust with lime. The hydropult is very effective for applying various solutions to the branches and foliage of trees. Wash trunks of trees affected by scale or bark louse, with a solution of potash and water, or the oil soap mixture, using 1 lb. whale oil soap to 6 lbs. water. Look for borers around the roots of apple, pear, and peach trees. One killed now, destroys many in embryo.

Layer shoots of last season's growth of grape vines, quince stools, and ornamental shrubs. This is a convenient and sure method of propagating many plants which do not root freely from cuttings.

Mulching newly planted trees with straw, sawdust, or tan bark, is beneficial, particularly in dry weather. Spread it half an inch thick or more, over the surface as far as the roots extend.

Orchards are too much cultivated for other crops than fruit, often with little manure; thus many fall while they should be in their prime. Moderate crops may be taken from them without injury, by manuring heavily and plowing at a distance from the roots if the trees are young, and by shallow culture in old orchards. If the soil is in good condition, the land may be seeded to grass: in this case, keep a clear space at least ten feet in diameter about the trunks, over which spread lime or ashes—a bushel of the latter or a peck of the former to each tree. An occasional top dressing of fine manure will also be beneficial.

Peaches, apricots, and other stone fruits may still be set out, *f*, but should have been transplanted last month.

Pears may also be transplanted, *f*, if neglected until now. Form them to a compact head by cutting back a portion of last season's growth; this will also induce the tree to throw out fruit spurs. It is injurious to these or other trees to allow fruit to mature the first season after resetting; all the vigor is needed to recover from the effects of disturbing and wounding the roots, change of soil, etc.

Plow or use the cultivator frequently between nursery rows, and little hoeing will be needed. Use short whiffletrees, and pad the ends to prevent barking the trees.

Plums—Set out, *l*, if not already done. Cut out and burn all black knot excrescences. Dust the trees several times with air slaked lime, just as they are passing out of bloom, to drive away the curculio. It may be easily applied from a small bag of thin muslin tied to a pole, and shaken about among the limbs. This method has proved successful in some cases. Occasional showerings with solution of whale-oil soap are also recommended. Repeat the process twice a week until the plums are half grown. Let poultry have free access to the plum yard—they will turn the insects to profit. In planting a plum orchard it is well to arrange it for a

poultry yard—very few insects of any kind can burrow into, or escape from the ground without attracting the sharp eye and ready bill of the chickens.

Pruning—Defer this work until June or July, except to remove decayed branches, or cut back last season's growth with a sharp knife.

Seeds and Seed Beds—Unless completed, as should have been done last month, plant seeds and pits, *f*. Stir the ground between rows of last year's seedlings, but do not disturb the soil in the row, as pits which did not grow last season may now be sending up shoots. Shade evergreens from the hot sun, and water occasionally.

Stocks of apple, pear, plum, cherry, quince, etc., also of shrubs and ornamental plants, with cuttings of grapes and other vines, should all be put in, *f*, if not set last month.

Stools, that is, trees and shrubs kept to propagate from by layers, should now be spaded about, and the outer branches laid down, removing those which were layered last season, and are now rooted. With many shrubs this is the best method of increasing the stock. Quinces are now largely propagated in this manner. The upright growth should be frequently cut back, to induce suckers.

Weeds will soon make their appearance, and must be kept in check with plows, cultivators, horse and hand hoes.

Weeping trees are largely inquired for of late. They are mainly propagated by grafting the weeping variety upon stocks of the ordinary sort. Graft, *f*.

Kitchen and Fruit Garden.

If the directions of last month were followed, most of the preparatory work of draining, manuring, and trenching, is finished, many seeds have been sown, and some vegetables already show their young growth. In the limited space usually devoted to vegetables for home use, it is easy by a little extra care in protecting tender plants, as beans, melons, cucumbers, etc., to secure their ripening from one to two or more weeks earlier than their ordinary season. A board resting upon bricks, laid over the row, will keep off pretty severe frost. Hand glasses, are convenient and more effectual. A pane of glass on four bricks answers a good purpose.

When rain has fallen after seeds have been sown, and the surface has dried rapidly, it will facilitate the appearance of the tender shoots, to gently loosen the crust above them, with care not to injure the growing plants. A loose surface is most favorable to growth under all circumstances, and frequent light hoeings will prove beneficial in destroying weeds, and admitting air to the roots of the plants.

The general appearance of a vegetable garden will be greatly improved by regular arrangement of walks, which should be laid out by a line. Much space is wasted by cutting the grounds into small beds; long rows across the garden are every way preferable. As far as practicable, arrange the various divisions so that two or three successive crops can be taken from the same plot, thus; turnips after early peas; late cabbages to follow early potatoes, and radishes and lettuce to be scattered among the hills of melons and other vines, etc.

Asparagus—Cut every shoot as it rises to sufficient height for the table, by which means the season will be much prolonged. Be careful in cutting not to injure the young shoots beneath the surface.

Beans—Bush varieties make a neat bordering along main walks: plant, *m*, *l*, put in seed with the eyes downward, and cover lightly. Mohawk, China and Valentine are early, the Union, Rob Roy, Marrowfat, Large White Kidney, and Refugee are later; the last named is considered superior for planting late for pickles, and for salting for Winter use. The Lima stands first among pole beans. A trellis of stakes and wire seven feet high, is preferable to poles. Set stakes or poles if used, before planting the hills, which should be raised an inch or two above the surrounding surface.

Beets for early use should now be up. They may still be sown, *f*. Sow for winter use, *l*, on deep, mellow soil, in shallow drills, eighteen inches apart.

Blackberries—It is somewhat late for transplanting in this latitude, yet with care they may be made to live. Cut down the cane to within six inches of the roots before transplanting. Stake up old canes or train them to trellises.

Borecole and Broccoli—Sow, *f, m*, as directed last month. Transplant from hot-bed, *f, m*.

Cabbage and Cauliflower—Sow, *f, m*, for late use, in rich mellow ground. Plant out, *f, m*, any remaining in hot-beds or cold frames. A coop of young chickens near the cabbage patch is a better protection from the garden flea and other insects, than the applications of soot, ashes, etc., often recommended. It may be necessary to examine about the roots for the cut worm. Hoe former plantings frequently, in the morning when the dew is on.

Carrots and Parsneps for late use may still be planted, *f*—last month was the appropriate season.

Celery—Sow, *f, m*, for late use, according to directions given last month, page 115, which see.

Cistern—For large gardens, a capacious cistern to be filled from the roofs of adjacent buildings, is a great convenience. During drouth, a hose from a hydropult or garden engine may be introduced, and a thorough watering be given with little trouble.

Cold Frames—Remove any remaining plants, *f, m*, and store the frames for another season. An occasional coat of paint and care in handling, will preserve them many years.

Corn—Plant small plots of sweet varieties, *f, m, l*, at intervals of a week or ten days, to ripen for succession. For garden culture, where the ground is well enriched, it will succeed in drills $2\frac{1}{2}$ feet apart, the stalks standing eight inches distant in the row.

Cucumbers—Transplant those started in the house as directed last month, *f, m*. Plant seeds, *f, m*, for Summer use, and, *l*, for pickling. Sprinkling with a solution of hen manure will aid in keeping off insects, and will forward the growth of the plants. Our practice in addition to this, is to make large hills and put in, at intervals of a few days, several rows of seed around the first planting, to attract insects which may escape other preventives. Superfluous plants are removed when the danger is over.

Currants—Plant, *f*, if not already completed. It is better done before the growth has started. Drench freely with soap suds to repel aphides and other insects. Keep the surface around them loose and free from grass and weeds.

Drills for seeds are best made with a straight narrow edged board, drawn back and forth until the proper depth is reached. This method secures uniformity, and prevents lumps about the seed.

Egg Plants—Transplant from the hot-bed into ground well enriched with horse manure, when the weather is sufficiently warm and settled.

Fruit Trees—For a good selection of dwarf apples and pears, see page 145. The main fruit yard should be separate from the kitchen garden.

Grapes—Set new vines, *f*—last month was preferable. Secure them with lead wire, bast, or soft cotton cord to stakes and trellises. Watch against insects, which may attack the young buds.

Herbs—Set any remaining roots, on borders, *f*.

Hoe frequently about early vegetables to destroy weeds, and keep the surface porous. Keep all the paths clean. A push hoe is a good implement for this purpose. The double coulter scuffle hoe, made with an opening to pass on each side of rows of young plants, is an excellent tool.

Hot-Beds—Remove all plants from them, *f, m*, and put away sashes and frames for another season.

Insects will soon come swarming from their Winter retreats—many are already on the alert. Hen manure is offensive to many species. It should be mixed with plenty of soil before applying near seed. A solution of it sprinkled upon vines, etc., will be beneficial. A decoction of quassia chips is recommended by some gardeners. Covering with millinet frames, is almost a certain preventive.

Kohl Rabi—Sow, *f, m*, and cultivate like cabbage, except that the plants may be placed nearer together, say in rows two feet apart, and one foot distant in the row.

Lettuce—Transplant from hot-beds, *f*. Sow, *f*, and every two weeks for succession, among hills of vines, and other unoccupied corners. Thin cabbage varieties to nine or ten inches apart.

Manure—A supply for a large garden may be obtained by saving sink and chamber slops, and using the contents of the privy. Offensive substances are made inodorous by mixing with them plenty of muck, or by sprinkling liberally with sulphate of lime (plaster of Paris.) Frequent sprinkling with liquid manure in small quantities, is preferable to occasional soakings.

Melons—Plant, *m, l*, as directed for cucumbers.

Mushrooms—Make beds for Summer use, *f, m*.

Nasturtiums—Sow, *f, m*, where they will be shaded from the midday sun. They thrive best with plenty of moisture.

Okra—Sow, *f, m*, in very rich soil, in shallow drills, 3 feet apart, and thin to a foot distant in the row.

Onions may still be sown, *f*, for late use. This crop does well upon the same ground year after year, if the soil be kept rich. A liberal dressing of ashes is beneficial.

Peas—Sow, *f, m, l*, for a succession. The Champion of England variety is generally preferred for the main crop—it ripens late, and is therefore comparatively free from the weevil. For a convenient method of supporting peas, see page 135.

Peppers—Plant out from the hot-bed, *f, m*, eighteen inches apart, in rows two feet distant.

Potatoes—Plant, *f*, if not completed. Hoe former plantings, and top-dress with ashes and plaster.

Pumpkins—Plant, *f, m*, in hills eight feet apart, and at a distance from melons or squashes. Where different varieties of such vines are cultivated in the same enclosure, it is a good arrangement, to surround each plot with several rows of peas, which will partially protect them from mixing. Read "Impure Squash Seed," page 149.

Radishes—Continue to sow in vacant spaces, among vines, etc., *f, m, l*, for a succession.

Raspberries—Stake up and trim off, if not already done, as directed last month. Keep the ground enriched by forking in well decomposed manure.

Rhubarb—Set roots or sow seed, *f*, if not supplied. Hoe out all grass and weeds, and keep the surface loose. Manure heavily around the plants.

Sage, Savory, etc.—Sow, *f, m*. Transplant last year's sowing.

Salsify—Sow, *f, m*, on soil deeply worked, the same as for carrots.

Seeds—Test before sowing largely. Set out all remaining roots or plants intended to furnish seeds next year. Different varieties of the same species, as cabbages, turnips, etc., of various sorts, should be widely separated, to keep the seed pure.

Squashes—Plant, *f, m*, as directed for cucumbers and pumpkins.

Strawberries—Make new beds, *f, m*, if not done in April, which is the best month in the year for the work in this latitude. For choice varieties, see last month's Calendar. Culture in hills is gaining favor—see page 149. Keep the surface free from weeds; water, if the weather be dry. A liberal supply of ashes worked into the bed, will be beneficial. Mulch with saw-dust or cut straw, before blossoming commences, to keep the ground moist, and preserve the fruit from contact with the earth.

Sweet Potatoes—Plant out, *l*, or when the weather is settled warm, in deep, well pulverized soil, enriched with stable manure. Set plants from fifteen to eighteen inches apart, in high ridges, about three and a half feet from center to center, so low that the stems of the lower leaves will be covered; they will then sprout again, if cut off by frost or worms. If the plants are very low, set them obliquely, so that the roots will not be too far below the surface.

Tomatoes—Transplant from the hot-bed, *f, m*, to a well enriched border, with a southern exposure, if possible. A sandy soil is favorable. In setting the plants, place them a little deeper than they originally stood—they will throw out fibrous roots

from the stem. Set the plants four feet apart each way, and prepare a framework of thin strips to support the vines.

Transplanting—Read article on page 149.

Turnips—Hoe, weed, and thin those sown previously. Sow for Summer use, *f, m*. Next month, or the following, will be early enough for the Winter stock.

Weeds—Raise them from the ground on the hoe, invert them carefully, and repeat the operation as often as they appear.

Winter Cherry (Physalis)—Plant out, *f, m*, the same as tomatoes, setting them nearer together, say two, to two and a half feet distant. Seed may still be sown, *f, m*.

Flower Garden and Lawn.

If any of the old beds are to be re-arranged, and the shrubbery and perennial plants transplanted, let it be done at once. In transplanting, disturb the roots as little as possible, or they will show a weak bloom the first season. Some of the older plants may require dividing, having become too large.

The frames, pits, houses and conservatories can now be emptied of all but tender plants. Most of them will do best, turned from the pots into the open border. Intersperse them among the bulbs, annuals and late blooming perennials, where they will make an immediate show, and keep up a good succession.

Amaryllis, one of the finest Autumn blooming bulbs, should be set in a warm border, *f, m*.

Annuals—Sow, *f, m*, as noticed in the calendar of last month. It is essential that a good variety of fine blooming annuals should now be put in, to keep up a show of flowers late in the season, after most of the perennials have cast their blossoms. Those sown in the houses to forward their growth, may now be transplanted to the open ground.

Bedding plants are now in demand, especially the verbenas, petunias, salvias, and heliotropes. The dicentra, lavatera, daisy, mignonette, etc., answer well for bedding. As a rule, it is better to set each variety by itself, than to mix them promiscuously.

Biennials and perennials should be arranged, *f*, as they are already beginning to grow. Do not transplant them too often. They are kept weak by transplanting nearly every Spring. Where it is desirable to increase the stock, remove a portion from one side, and leave the remainder undisturbed. See articles on page 146.

Box Edging—Unless already done, set, *f, m*. Clip old box, and replenish any weak places.

Bulbs—The earliest blooming are already fading, but there should still be a fine show of crown imperials, tulips, and a few hyacinths. Keep well supported, and stretch a muslin awning over the choicest, to lengthen the period of bloom, removing it at night and during cloudy weather. Set Autumn blooming varieties, as amaryllis, gladiolus, tuberose, lilies of various kinds, etc.

Carnations and Pinks from the forcing apartments may now be set out already in bloom. Tie to neat stakes. Divide roots and separate last year's layers to form new plants. They are desirable flowers, either for massing or planting singly.

Cypress Vine, Morning Glory, and other annual Climbers—Sow, *f, m*, and train upon strings around a central pole as shown on page 339, Vol. 17. Unsightly buildings, rough fences, etc., can be almost hidden beneath a mass of bloom, when covered with these climbers. Screens or lattice work may also have these vines running over them. Cypress vine seeds vegetate much more freely when soaked in tepid water for 12 hours before sowing.

Dahlias—Plant, *m, l*. Sprout them in boxes of earth, or by burying in a warm border previous to planting.

Dicentra Spectabilis—Plant and treat as the pœony, which it somewhat resembles in habit of growth. It is easily propagated by dividing the roots. Set, *f*, and a partial bloom may be expected the present season.

Evergreens—Plant from the 10th to the 20th, jus'

after the trees have begun to grow. In transplanting, keep the roots from the sun. Hollies, rhododendrons, and other broad leaved evergreens do better when removed with a ball of earth attached. To keep evergreens in a compact shrubby form, cut off the leaders and some of the side branches. If desired for statelike trees, do not injure the leaders. Set hedges and screens of Norway Spruce, arbor vitae, hemlock, etc.

Frames and Pits—Remove any remaining plants, *f*, turning them from the pots into the flower borders and lawn beds.

Flowering Shrubs—Unless already planted, as advised last month, set out, *f*. Some of the early flowering sorts are already in bloom, or have cast their flowers, but the later kinds may still be planted. Intersperse them among the taller perennial flowers, and also around the house, as a connecting link between that and the larger trees.

Gladiolus—Set the bulbs, *f*, *m*, in a warm sunny place. Some of the newer varieties are very pretty.

Grass Edging—Keep well trimmed along the edges, using a line and sharp spade, or steel edging knife. Clip the grass evenly with the garden shears or grass hook. New turfing may also be laid, *f*, *m*.

Gravel Walks should be kept free from weeds, well covered with clean, coarse gravel, and frequently rolled with a heavy iron or stone roller.

Hedges—Complete setting deciduous, *f*, and evergreen, *m*. Clip any not attended to last month. Renew weak places in old hedges, by setting new plants and plashing or weaving others.

Honeysuckles, Wistarias, Ivy, Ampelopsis, Bigonias, Clematis and other perennial climbers—Set, *f*, if neglected until now. Arrange on trellises or lattice work. Old wood may be layered for an increase of stock. Sow seeds, *f*, *m*.

Hot-Beds—Transplant any thing remaining, *f*, *m*. If first set in small pots, and kept for a short time under the glass, and afterward set in the open ground without disturbing the roots, they suffer less in changing.

Insects—Combat them upon their first approach and it will be much easier to keep them in check.

Labels, Stakes, and Dahlia Poles should all be in readiness for use when needed. Mark the seeds when sown, by putting in small painted sticks with the names written upon them. It is a good plan to make a record on paper of each day's sowing, putting down the kinds of seeds and roots planted, with their exact positions.

Lawns will need mowing, *m*, *l*, and should be cut very evenly.

Mulching will be beneficial to newly planted trees and shrubs, as indicated under the orchard calendar.

Pruning—Although we oppose cutting off large branches at this season, yet the pruning knife may be used where necessary, mainly to cut back last year's growth, so as to form a more compact or bushy head. Shrubbery needs to be kept dense to look well. Evergreens should branch quite down to the ground. Their outer extremities may be cut back slightly, to make a dense growth.

Roses—Complete setting, *f*, and let the supply be large and varied, if space will permit. The common June or garden roses should yield, to remountants, Teas, and Bourbons.

Tree pillar and climbing sorts. Old wood may be layered. Remove layers of last season. Turn those in pots into the open border.

Shade Trees—Plant deciduous, *f*, unless already set, as directed last month, and evergreen trees, *m*, *l*.

Tree Edging—Put down, *f*, setting it even and perpendicular. Some modern sorts are quite pretty.

Trellises and Upright Frames—Put all of these in order for training the climbers.

Tuberose—Plant, *f*, any bulbs not in the ground.

Water plants and trees recently set out, if dry. Mulching before watering will be beneficial.

Weeds should not be allowed to get a start in these grounds. They do much more damage now, if allowed to grow, than later in the season.

Green and Hot-Houses.

These are rapidly yielding up their treasures to enrich the open borders and flower patches. In carrying them out, begin with the more hardy, and complete the transfer by the 10th, as little danger need be apprehended from frost in this latitude after that period. Roses, verbenas, and other bedding plants should be turned from their pots, but oranges, lemons, oleanders, camellias, and the like may be tastefully arranged about the grounds in the tubs or pots. Having carried them from the houses, throw open both doors and ventilators, except during rains. If painting be needed, do it now.

For propagating, and especially with collections of tropical species, it is better to let the plants remain in-doors, where a more perfect control over them can be had, shading when necessary and administering or withholding water as is desirable.

Bedding Plants—Set in open grounds as directed under Flower Garden. Peg down verbenas to give them a spreading habit.

Cactuses may be readily increased by cuttings put in, *f*, *m*. Examine for and destroy insects.

Camellias—These have completed their bloom and should now be in a fine growing state. Keep them in a thrifty condition, so that good sized healthy flower buds may be formed later in the season. Give them an airy situation, partially shielded from the sun; syringe often to keep down insects.

Cuttings of many plants both woody and succulent, may still be made. Protect them from the direct rays of the sun, with hand or bell glasses.

Fuchsias—Plant out in borders, *m*, or shift those intended to bloom in pots. Water freely. Increase the stock by putting in a good supply of cuttings. Beds or masses of fuchsias give much pleasure in the flower garden.

Grapes—If strongly forced, the clusters will now require thinning, or they may even be swelling preparatory to the stoning period. Keep well syringed, and pinch back or rub off growing shoots as needed. Later vines are only in bloom or just setting fruit. Do not give too much water when in bloom, and avoid throwing it on with much force. Guard well against mildew. See that borders are uncovered, well manured and forked over.

Inarching may be performed on woody plants that do not root readily by cuttings, such as oranges, lemons, camellias, etc.

Insects—Vigilance is needed now at the breeding period. A single miller destroyed before laying her eggs, is equivalent to killing dozens, and sometimes hundreds after hatching. Water, tobacco fumes, oil soap, and the like will keep them in check.

Japan and other Lilies—Plant out, *f*, *m*, and tie up flower stalks of those in bloom. Increase the stock by separating and potting the scales. Plant seeds for new varieties. As a class they are well worthy of more general cultivation.

Layering may still be done in the houses as directed under Orchard and Nursery.

Oranges, lemons, oleanders and myrtles—Carry to open ground and water frequently. Plant seeds for a stock, and graft those needing it.

Pelargoniums—A good stock of these should now be ready for bedding out. More cuttings may still be put in for Winter blooming plants.

Roses may all be removed to the open grounds, *f*, *m*. Increase the stock by cuttings, *f*. A good collection in bloom, will now be appreciated, and will give the borders a floral look at once.

Water freely, both before and after removing plants from the houses. Evening is the best time to apply it. Plants remaining in pots will require more water than if planted out.

Apiary in May.

BY M. QUINBY.

As soon as the bees become sufficiently numerous to cover the combs on a cool morning, the front side of the hive may be raised half an inch, for the summer, unless they become weak; when the hive should be closed again. Until the combs are covered, worms may be found on the floor, and de-

stroyed, as mentioned last month. They are probably more injurious proportionably in small apiaries, than in large ones, and more care is required to destroy them. When the bees have reached to the bottom of the hive, the worms will creep into some covered place for protection, to spin their cocoons in which to undergo transformation to winged insects or moths. This propensity to hide away, is readily turned to their destruction. A trap is easily made from an eldersplit in halves, the pith scraped out, some notches cut crosswise, and then laid flat side down under the bees. The worms creep into these, and wind up their cocoons and feel perfectly secure; take them out once or twice a week, and destroy them.

If the weather be wet and cold, light colonies will not get a supply of honey from the flowers, and will yet need attention to prevent starving, especially during a long storm. Even good stocks that are in no danger of famine, may be advanced considerably by being fed a little at such times. . . . The danger of robbers is not past; a weak stock may be attacked any warm day before clover blossoms.

Boxes for surplus honey should not be put on while the bees work much on dandelions, if pure white combs are wanted. The yellow stain that they impart by running over them at such times, make them less salable in market. Should the weather be favorable, swarms may be expected in some places the last of the month. Get every thing in readiness seasonably. Hives must not be painted and used immediately. Bees seem to dislike the smell of new paint. When it can not be done beforehand, better leave the hive unpainted, or defer it until cold weather, and do it after the bees have filled the hive, when they will not be likely to leave. Very small apiaries, when the stocks are pretty strong, should have about two empty hives prepared for each old stock. When large ones are kept, an average of one and a half hives to a colony will do. Very likely there will be more swarms than this in a good season; yet in a large number, very many of the small swarms will be near enough together to be united. Three or four of the smallest, are none to many for a good colony.

Bees that swarm out naturally, are quite as apt to divide their numbers properly, as when swarms are made artificially, and when natural swarms can be cared for conveniently, it is as well to let them take their own course, particularly the first one from a hive. But when it is inconvenient to watch for, or take charge of them, artificial swarms may be made. The proper time for it is a few days only before the first swarm would issue. With the movable comb hive it is an easy matter. Begin by introducing smoke, or by sprinkling the bees with sugar water to keep them quiet. Have a new hive with frames the size of the old one, and the same number. Take out half of the combs with bees attached, and put them in the new one, putting half of the empty frames in place of them. Remove the old stand one or two feet to the right or left, and the new one the same distance the other side. The bees should be kept nearly equal by moving the one that is getting most, a little further from the old stand. In a day or two, you will know the queenless division by its having started queen-cells. To have them equal at the end of a few weeks, the queenless party should now have two thirds or more of the combs; being careful in making the exchange not to transfer the queen. If there be no room for a stand on each side of the old one, one stand is to be made somewhere else; it will then be necessary to look up the queen, and put her with the comb on which she is found, and what bees are with her, in the new hive, and set that on the old stand. Set the old hive with bees and combs in a new place—enough bees will leave it for the old stand, to make that a good swarm. If no sealed queen cells are found in the queenless part, in ten days, one should be introduced from another hive, or give them at least a comb with eggs or young larvae. Persons without much experience in this should be cautious about operating before the old stock is sufficiently strong to spare a swarm; a want of success often results from this cause.



Into which are thrown various useful or interesting items, Replies to Questions, Extracts from Letters, Gleanings from other Journals, etc.

Errors always Corrected.—If by misunderstanding, any error or mistake should by chance occur in forwarding any premium exactly as promised, all needed corrections will be gladly made.

Dwarf Broom Corn—Error.—Our printer placed Mr. Chandee at Sandy Spring, Pa., last month. It should be Md., as it appears in the present paper.

The Premium Dictionary.—In proof of what we have said of the value of Worcester's New Dictionary, we invite attention to the opinions of some of the leading literary men of the country which appear in the Publishers' advertisement on page 158.

First rate Premiums for All.—We invite the attention of all our readers to the very valuable premiums offered by the publisher, for a short time only. See last page (160). These offers must close next month. All the books and the hydopult are excellent, and worthy of the effort required to secure them. The "standing premiums" on page 154 can be secured at any time.

Draining Questions.—We are highly pleased at receiving a great number of queries on draining, as they indicate a largely increased interest in this important subject. It will be impossible to answer each question by itself, but the series of articles now in course of publication will include every point referred to by our various correspondents. The more questions asked the better, however, for they show what information is most needed and suggest points that might otherwise be overlooked.

Buying Implements, Trees, Seeds, Household Articles, etc.—We again commend to our readers the Purchasing agency of Mr. Lane, advertised in our columns. The convenience to the public of such an agency is obvious. The entire reliability of Mr. Lane, may be judged of by the strong recommendations he has from some of the ablest substantial business men of N. Y. city and elsewhere. One half of these men alone own property to the amount of at least ten millions of dollars. We are the more interested in this enterprise because it was started at our own suggestion, because it is a matter of convenience to our readers, and saves a world of business correspondence hitherto addressed to the editor of the *Agriculturist*, and because Mr. Lane was, in former years, one of our highly esteemed instructors.

To Persons Offering Free Seeds.—Frequent letters are received for publication, offering various seeds to those who will forward prepared envelopes. Most of these offers are prompted by generous impulses; a few take this method of getting the names of persons to whom they enclose a few seeds, perhaps worthless, and in the same letter an advertisement of some humbug. We can therefore only publish offers from known reliable persons; and even then it is seldom that any one has seed enough to supply a tenth of the calls that would be received. For example, a subscriber offered to distribute among his fellow subscribers, four quarts of good squash seed. After giving away all he had in small parcels, more than a thousand others applied. A good deal of trouble and scolding was the result.

Sorghum Sugar—Inquiry.—While most have succeeded in producing good syrup from the juice of the Sorghum, or Chinese Sugar Cane, few persons have obtained good sugar. There are many inquiries for information, and we would respectfully request all who have been successful in making good sugar to send us the details—giving the whole process, from the time and mode of cutting the cane, to the production of sugar.

Market Fair.—May 1st and 2d, the second Market Fair, under the direction of the Bedford Farmers' Club will be held at Katonah, Westchester Co., N. Y. Visitors are admitted free, and also all articles except live animals, upon which a small charge of 3 to 10 cents each is charged to cover expense of providing for them. This Fair is designed to bring together all those who wish to sell or buy farm or garden products, animals, etc., etc. We trust the enterprise will prove so successful as to warrant its continuance as a permanent institution, and the general introduction of this new feature in our country. For information address any one of the Committee, viz.: Messrs. John Jay, Jared H. Green, and Oliver Green; or the Superintendent, Mark Harris, Katonah, N. Y.

Winter-killing on Drained Land.—"Farmer," of Chillicothe, O., asks: "What good will drains do

when the ground is deeply frozen, but thaws three inches and is then soaked to that depth by rains, followed by many night freezings and day thawings."—The point is well taken, and it is perhaps too much to say that winter-killing never happens on thoroughly drained land. Yet such cases as are described by "Farmer" are rare. In most cases the ground breaks up when a thaw commences. Thawing and freezing twice or thrice will not destroy the roots, or we should have no Winter crops. It is a succession of such changes on wet soils that breaks and tears the roots; and it is safe to say that the injury is tenfold less when the soil is kept dry, except in occasional instances like those named.

Giant Rye.—Giant Wheat.—O. M. Lord. The grain sent by you is sometimes called "Wild Goose Wheat." It is really a mammoth rye. The Giant Wheat distributed from this office, is not the same with the "Wild Goose Wheat," largely advertised in some quarters, but is a variety improved by careful selection for years in England. As heretofore stated, we can not vouch for its superiority when grown in this country, but it is of sufficient promise to warrant trial on a small scale.

The Japanese Wheat Humbug Still Alive.—We notice that the persons engaged in swindling the public by offering millet seed under the spurious name of "Japanese Wheat," are still operating. As late as April 13, a lot of the circulars came to our own County Post Office, addressed to various farmers, and among others one to our own name! Though our caution, published in the February *Agriculturist*, page 38, has been widely copied by other papers, yet the operators hope, by sending the circulars all over the country, to occasionally reach some foolish man who has "not read the papers." As the millet seed costs comparatively nothing, if sent at all, they will make money at it if one person in 50 or 75 of those addressed forward the dollar.

"Egyptian Corn" Humbug.—To J. A. Lee, Pike Co., Mo., and others. Two or more parties are distributing plausible handbills, advertising to send, for a dollar, a little parcel of seed that they call "Egyptian Corn," of which they tell wonderful stories. It is the Dourah corn, or what was a few years since called "Egyptian Wheat." It is not worth the dollar. Many persons, (including ourselves,) have tried it during half a dozen years past, and while some have thought it worth raising for chicken feed, and even for other animals, very few have grown it a second or third year. The special humbug in this case, is in the price asked, and the stories told of its origin, value, etc.

Dwarf Broom Corn Seed.—J. A. Voorhies, Middlesex Co., N. J. Box of seed received, for which please accept thanks.

White Rye.—We hear from several subscribers most excellent accounts of this variety, which was formerly in our premium seed distribution. E. R. Cady, Columbia Co., N. Y., who sowed about an acre, states that it yielded finely, gave grain several pounds heavier per bushel than the ordinary variety, and made a very superior quality of flour.

Sods under Potato Hills—Bugs.—Edmund Bacon, Worcester Co., Mass., writes that though he had good potatoes for three successive years, on land liberally manured, he lost many of them by rot. Last year he used no manure, but put an inverted sod under the seed in each hill. The result was, he had a fair crop of good mealy potatoes, and very little rot; while his neighbors who planted in the usual way, suffered from the rot as much as ever. He used seed saved from potatoes that rotted the previous year, and kept them in the same place.... The striped bugs have annually visited the vines in large numbers. Last year when the bugs began to appear, he dusted the vines with a mixture of 2 parts ashes and 1 part plaster, applied through a meal sieve. The bugs "seceded" at once.

Hubbard Squash, Pure.—E. P. Pike, Waldo Co., Me. The pure Hubbard squash is shaped much like the marrow, rather smaller in size, of a dark green color, very rough and hard shell, with dry, yellow meat, very sweet and fine, especially in winter.

Melons Rotting.—Wm. Platts, Scott Co., Iowa, says he had $\frac{1}{2}$ acre of Skillman's Netted Muskmelons last year which fruited well, but before quite ripe enough to gather, about one-third of them cracked open, molded, and became sour. They were planted in good season, on a rich sand loam, facing the southeast, and the vines appeared vigorous. He asks the cause and the remedy. We can not give it; we had almost the same result with three varieties, last year, scarcely a melon being fit to eat. We could attribute it to nothing but the unusual weather. Perhaps the long drouth prevented a sufficient development of roots, and a new rapid growth of these and of vines, when the autumn rains came, may have

checked the maturing of the fruit. The question is before the meeting.

Rhubarb, or Pie-Plant.—N. E. Mertrens, Searcy Co., Ark. The leaf stems of this plant are an admirable substitute for apples, for sauce and pies—especially in a new country where fruits are scarce. The stems are peeled, cut, cooked, and sweetened, just like sour apples. Ten or a dozen strong roots will supply a large family well during the season. They are cheap now, and can be carried almost any distance. They require little culture, though like most other plants they pay well for good soil and manure. The roots increase in size, and are propagated by cutting them into pieces, or "crowns," and planting out, 3 to 4 feet apart, as early as may be in Spring. All things considered, the Linnaeus Rhubarb is now deservedly the most popular variety. Rhubarb may be raised from seed, though more time is required, and you are not certain to get true or very good varieties from seed. Sow in a bed early in Spring, thin out to 4 inches, and transplant in October.

Early Turnips.—S. Peters, Burlington Co., Vt. One of the earliest, is the Strap-leaved Red-top, called also the Early Red-top Dutch, which is ready for the table in five or six weeks from planting. It may be sown at any season up to the middle of August, or so late as to give it two months to grow before frost. It is less solid and nutritious than the Swedes or Ruta-bagas, which require a longer season, and should be sown from the middle of May to the first or middle of June. For family use early turnips may be grown in vacant spots, between rows of corn and garden vegetables, and especially between hills of cucumbers and squashes, as they are soon out of the way of the extending vines. We always produce an abundant supply for the table without wasting any ground.

Shallot.—R. M. Shultz, Cooper Co., Mo. This is a species of onion, of strong flavor, and highly prized by some for seasoning, especially with beef steak. Is little used in this country as yet. The roots are small, oblong and irregular, growing in clusters as offsets from the root set out. Cultivate just like onion sets in Spring; or put the bulbs in the ground three inches deep, in October or November, five inches apart, in rows 10 inches apart, and cover with 3 or 4 inches of soil. In Spring draw away most of the earth, leaving the bulbs nearly bare, and afterwards simply keep out the weeds. When the tops are up, stake up the roots, dry and put away for use.

Lawn Grass.—E. E. Welbon, Jefferson Co., Ill. The preference now is for a single variety of grass for the lawn. The perennial Italian Rye grass winter-killed with us. We shall now try the Kentucky Blue Grass.

Nasturtiums, or Indian Cress.—B. N. Mieux, Dorchester Co., Canada. The common nasturtium is worthy a place in your garden. Its flowers are beautiful and its green seed capsules make the finest pickles we have, thus combining beauty and utility. Sow on any good soil as early as it can be worked. They will run on a wall or trellis from six to a dozen feet. The dwarf varieties scarcely need a trellis. You can hardly fail to grow the nasturtium with as little trouble as peas are cultivated. The vines, leaves, and seed capsules taste somewhat like the common water cress.

Marls.—J. S. D., Emmet Co., Mich. There are various deposits called marls, though the term is usually applied to calcareous (lime shell) earths, containing a considerable portion of lime originally produced from the shells of water animals. Such marls are easily recognized by effervescing (or boiling) briskly, when a little acid, (hydrochloric, sulphuric, or nitric,) is dropped upon them. Many supposed marls prove to be only clay deposits; these are not affected by acids. The "green sand marl" of New-Jersey is a different substance, containing potash, phosphoric acid, and organic remains, etc. It is applied and mixed with poor soils in large quantities at any convenient season, and generally with excellent results, if used freely. Common marl is also applied at any time, spread broadcast, and mixed with the soil by plowing or harrowing, or both. Its action is more like that of lime than of plaster.

Raising Early Chickens in a Hot-bed.—A "New Subscriber" in Baltimore Co., Md., writes that he has raised two broods of fine early chickens, hatched Jan. 17th and 20th, by keeping them for a season under a glass protection, in an unused hot-bed—Not a bad idea. Very early Spring chickens command a high price in our large cities. A large hot-bed would offer room for a considerable number of chickens, which might be kept there until well started, and by gradual exposure be hardened off ready to take their place in the poultry yard by the time the glass is needed for plants. A sash costing \$3 or \$4 may thus annually serve the double purpose of raising early chickens, and then a supply of early plants of cabbage, lettuce, radishes, etc.

Texas Millet probably differs little from the Hungarian. A. L. Chase, Wayne Co., Mich., may safely sow one half bushel to the acre on the first of June.

Early Potatoes.—F. Carter, New-Haven Co., Conn. The Dykeman, a round white potato, with skin slightly shaded with purple, is considered one of the best early varieties.

Potatoes—Mercers and Buckeyes—Marl.—P. L. Turgand, Middlesex Co., N. J., asks which yields the best.—*Ans.*—The reports are that the Buckeyes yield by far the most; but they are inferior potatoes, so far as we have seen them, and the Mercers are every way preferable, wherever they will grow well. The Green Sand Marl of the region southeast of you, has usually proved of great value to the potato crop.

Late Gathering of Corn.—Joel H. Abbott, of Ill., in a letter dated March 6th, 1861, says: "The corn crop is not all gathered yet in this section of the country, but if the present fair weather continues it will greatly aid in this respect."—[It may be novel to Eastern readers, but we have seen farmers on some of the great corn growing prairies, moving off the shocks of corn grown the previous year to make way for planting the next crop.—*Ed.*]

More Good Corn.—The Green Bay (Wis.) Advocate, says that a field of Judge J. P. Arndt, of that city, yielded 190 bushels of good, sound, yellow corn, per acre. The field was planted on the 20th of May, in rows 2½ feet apart, the hills 2 feet apart. (Rather close planting.)

Supporting Peas.—Wm. H. Alles, Ottawa Co., Mich., recommends to plant peas in the following way: Stretch a line along one side of the plot to be planted. On this tie bits of cord about three feet apart, or a little more if the peas are of a tall variety. Directly under these, stick small pegs to mark the center of the hills; around these make circular trenches 4 inches deep, and 20 inches in diameter; drop the peas, and cover by making smaller trenches within the larger, 9 inches in diameter, drop the peas in this also, and cover. As the peas grow, they cling together by their tendrils, and need but a slight support in the centre of the hill to hold them up.

Cheese-Making Rules.—A correspondent of the Country Gentleman gives the following rules: 1st. Multiply the number of pounds of milk by 11; point off two figures for decimals, and the product is pounds and decimals of a pound of cheese as it comes from the press. *Example:* how many pounds of cheese will 475 lbs. of milk produce. *Answer.*—475 multiplied by 11 equals 5225 (or 52¼ lbs.).—2nd. For ascertaining the quantity of salt for cheese, multiply the number of pounds of milk by 3, and point off three places for decimals. The answer is in pounds and decimals of a pound. Or, if you divide the number of pounds of milk by 21, the quotient will be the number of ounces of salt to be used. (The above are only approximate results. Milk differs in its composition greatly; and some will obtain much more cheese than others from the same milk.—*Ed. Am. Agr.*]

New Method of Curing Cheese.—X. A. W., in the Dairy Farmer says that some dairymen treat their cheese as follows, and find that it works admirably: When the cheese comes from the press it is oiled and bandaged; after this, sweet whey is heated and used daily in rubbing the cheese; the whey must not be heated to a higher point than the hand can bear. He says that cheese treated in this way is not so apt to crack; while it presents a firmer and smoother rind when fit for market, than cheese treated with oil or whey butter.

Gapes in Chickens—Our Seeds.—Mrs. S. A. Ferguson, Boone Co., Mo., referring to the various cures recommended for gapes, says the best remedy is to kill all the poultry on a place once in two years or less, and substitute new and healthy supplies from other farms. She says she obtained the best radishes and beets, and the finest pinks, asters, and nasturtiums she ever saw, from seed received through our seed distribution of 1860.

To Prevent Hens Sitting.—M. L. T., Falmouth, Ky., recommends to keep the fowls in a coop three or four days without food, after which they will be too hungry to think of setting.

Tan Bark Manure.—A. Hunter, New-Plymouth. Spent tan bark, applied in its raw state, is of little value for manure. It serves as a good absorbent, or bedding in the yards or stalls. A Virginia correspondent experimented with it favorably, using two feet in thickness of tan bark, two inches lime, and so on, making a stack which he let remain two years, when it proved a good manure.

Muck with Offal.—Subscriber, Middlesex Co., Mass., will find two cords of muck can advantageously be incorporated with each cord of slaughter-house offal. The compost will then be quite powerful.

Bone Dust or Guano for Oats.—P. L. Turgand, Middlesex Co., N. J. On your sandy loam, the chances are about equal in the use of pure Peruvian guano, and bone sawdust, at the present price of the two fertilizers, though dry bone sawings at \$27 to \$30 per ton would probably pay better than guano at \$60 to \$65. Of guano apply 250 lbs. to 400 lbs., according to present richness of the soil, or about twice as much bone sawdust. Lester & Bros., Tarrytown, N. Y., furnish good bone-dust, and it can be obtained pure of most reliable agricultural stores.

To Avoid Pea Weevil.—W. W. W., advises to keep seed peas over, one year, that the bugs may all eat their way out and disappear before the peas are planted.

Simple Mole Trap.—Charles Ehemann traps moles with a deep earthen pot, which is placed in the ground, with the rim even with the lower edge of the burrow, and covered with straw. The entrance to the burrow on each side is stopped with a sod. The mole forces his way through, falls into the vessel, and is unable to crawl out. In this way he says he has caught three at a time.—A rather tedious process.

Polyphemus Moth.—J. C. Fletcher, Fulton Co., Pa. The moth you sent, (received alive,) was not the *Saturnia cythia*, but the *Attacus polyphemus*, quite a common moth, from a long bluish green caterpillar found on trees and bushes in August and September.

Destroying Green Fly.—A German gardener, who had used soap and water with indifferent success, found that, by boiling quassia chips and adding the decoction to the soap and water, the remedy was successful. Quassia is a wood remarkable for its intense bitterness and furnishes a decoction employed as an effectual fly poison. Would not some insects love quassia?

Wheat Insects.—A. Scott. There are many insects other than the Hessian Fly which injure wheat. The species you describe appears to be a kind of leaf-hopper. The true Hessian Fly is too well known, to admit any doubt of its destructive habits.

Protecting Corn from Cut Worms and Crows.—J. C. B., in the "Congregationalist" states that corn soaked forty eight hours in a solution of chloride of lime and copperas, one ounce of each for half a bushel of seed, seemed to forward its germination, and entirely protected it from the cut worms which were abundant in the field. A handful of ashes was dropped on each hill as soon as covered, and another applied at the first hoeing, and the crows did not molest it, though there were plenty in the neighborhood.

Sulphur for Potato Bugs.—Samuel Hunter, Sullivan Co., N. Y., writes that he has seen potato bugs entirely driven from the vines by sprinkling them with sulphur. It is doubtful whether this would pay on a large scale, even if it were successful.

Soot for Garden Fleas.—A. Felton, Clinton Co., Iowa, finds soot from the chimney or stove pipe, applied to cabbages when the dew is on, efficacious in keeping off insects. Also for driving the striped bug from cucumbers and squashes. (But it will not keep them away.—*Ed.*)

Preventing Sprouts around Fruit Trees.—Geo. N. Smith, Suffolk Co., N. Y. The only way to prevent these, is to continue to cut them away close to the roots. Good nursery trees grown from seeds, seldom give any trouble this way, but suckers from other trees are often strongly inclined to send up other suckers or sprouts.

Tobacco versus Rose Bugs.—"Abby" writes that a friend protected a large collection of rose bushes from rose bugs, by freely syringing them with tobacco tea.

Bast for Mats and Budding.—W. Franklin Co., Mo. Bark or bast from bass wood or linden trees in your latitude, will be nearly worthless, either for budding, or manufacturing into mats. Experiments in northern New-York show the bast of no strength, hence valueless. Only that from extreme northern climates is used. It was formerly obtained from St. Petersburg, Russia, now mostly from Archangel. The trees are felled and peeled when the bark runs readily in Spring, the bark then soaked, and stripped as fine as desired. The inner portions are the finest, strongest, and best every way.

Bleeding Vines.—T. P. Seely, Cass Co., Mich., alluding to the article on this topic in the March *Agriculturist*, says, he removed a large branch late in the Spring, and found it impossible to stop the bleeding, until he burned the cut surface with the flame of a lamp. In less than one minute it had ceased to bleed. Sealing with a hot iron answers the same purpose.

Tar for Bleeding Grape Vines.—Ezra Sayre, Shelby Co., Mo., writes that he stopped the flow of sap

from a wounded Isabella grape vine which was bleeding badly, by applying tar liberally and wrapping cotton cloth around the wound.

Chinese Wistaria.—Mrs. E. C. Angel, Marion Co., Iowa. The wistaria is propagated by cuttings or layers. It is a woody climber of great beauty.

The Allen Raspberry.—Mr. Meehan, editor of the Gardener's Monthly, says that a neighbor of his had a plot of this raspberry under 100 feet square, from which he sold over \$200 worth of fruit. The reports upon this variety differ greatly. Some speak of it in the highest terms, while others reject it entirely.

Barked Trees.—C. G. Siewers, Hamilton Co., O., recommends to surround the trunks of wounded trees with a lump of clay half an inch thick, worked soft to the consistence of putty. In this way he saved several fine dwarf pear trees. A large apple tree partially stripped of bark about two feet from the ground was successfully treated thus: Stakes were driven close around the tree, and kept in place by strips nailed on like hoops, and the space was filled with earth. The bark was rapidly replaced by new growth.

Osage Orange Hedges.—S. Peoria Co., Ill., alluding to the recommendation to set Osage Orange plants one foot apart for hedges, says they should be in double rows breaking joints, at that distance, or 6 to 8 inches apart in single rows.

Warning an Orchard.—M. M. Baldrige, Niagara Co., writes that a farmer in the town of Newstead, saved a large crop of apples from destruction by the disastrous June frost which killed most of the fruit in 1859, by keeping up large fires in his orchard during the night. He was apprehensive of frost, from the coldness of the preceding day, and being well supplied with cheap refuse wood, resorted to the above expedient. This might answer in a few cases where wood is abundant, but would cost too much with wood at \$4 to \$7 per cord, as is the case in many sections where apples are extensively raised.

Botanical Name of Cranberry.—S. Weishaup, Knox Co., Tenn. The common running cranberry is the *Oxycoccus macrocarpus*.

Euphorbia Leathyris.—Lewis H. Wendel, Nantucket Co., Mass. The seeds and leaves show your plant to be the above, sometimes called Caper Spurge, or Mole tree, from the idea that it is offensive to moles.

Single Flowers made Double.—F. M. Dearborn, Iroquois Co., Ill. A change from single to double petals is brought about by high culture. Seeds from the most perfect flowers are saved and sown upon rich soil each season. It is usually several years before a fixed change is effected; and even then there is a tendency to return to the original form, unless under good culture.

Petunias.—C. Russell, writes that the petunia seed distributed from the *Agriculturist* office last season, produced the finest flowers he has seen, with all shades, from deep crimson to pure white, and that they were worth ten times the cost of the paper.

Coal Oil for Rats.—A correspondent of the Ohio Field Notes, says he smeared with coal oil some portions of a Mowing Machine stored in a shed; and as a consequence the rats, which had been very numerous previously, all vacated the premises.—A correspondent of the *American Agriculturist*, referring to the above, says he don't believe in it, for he had a gallon of the coal oil run out into his cellar, which fouled the air so much that it was almost impossible to live in the house for a week afterward; but the rats are quite as abundant as ever—If not more so.

To Destroy Muskrats.—J. C. Boone, Kulpaville. Feed with pieces of sweet apple containing strychnine.

Agricultural Reports—Patent Office Seeds.—"Subscriber," Barnstable Co., Mass. The "Reports" and seeds can be obtained through your Representative in Congress. (We have a few of the "Reports" for 1859, the latest yet published, for sale at 30 cents each, or 60 cents, if sent by mail. They probably cost the Government \$1.00 each. We bought them at the price asked.)

Coffee Pea.—Kate E. Sockman, Ohio Co., Va. We know no other name than the above for the pea.

Corn Stalk Cutter.—D. M. M., Marion Co., Ind. The cutter and grinder used by W. in the article alluded to, was the "Keystone," advertised on page 378, December *Agriculturist*. It was the \$35 size.

Boots and Shoes are now being manufactured with a thick outer sole and a thin inner sole, both made of firm wood. Being a non-conducting material, the wooden soles are calculated to keep the feet warm and dry.

At least One Bushel More.

There is now every encouragement to cultivators, to increase the products of their fields to the last bushel, the present season, whether those products be wheat, corn, barley, oats, beans, peas, potatoes, carrots, turnips, orchard fruits, or garden vegetables. This does not necessarily imply the planting or sowing of more ground; though every acre that can possibly be tilled well, that is, so as to yield a fair profit, should be put under cultivation this year. The winter grains are, of course, already growing, yet the filling up of bare spots with spring varieties, the clearing out of obstructed drains or dead furrows, and the application of some kind of manure as a top-dressing, may materially increase the yield. For the crops yet to be put in, a thorough preparation of the ground, a selection of good seed, with the application of the last shovelful of manure from the barn-yard, poultry yard, etc., will all tell in cash next Autumn. Nothing makes our severe labors in the field less irksome, than to feel that we are putting in a crop so well that it can scarcely fail to give good returns. The satisfaction will be still greater, if we have reasonable prospects of realizing good prices for the resulting crop.

Such prospects are now before the cultivators of this country. In the Market Review, on a subsequent page, reference will be made to the condition of the breadstuff markets. An active demand for wheat, flour, or corn, will tend to a greater consumption of other farm and garden products. It may suffice to say here, that owing to the unpropitious harvest throughout Great Britain last year, with but a moderate yield on the Continent of Europe, the demand upon this country for breadstuffs has thus far been very large, and is likely to continue so through the year. Not only must sufficient supplies be drawn from us to meet the deficiency until the next harvest, but that harvest itself is likely to be a small one, comparatively, owing to the fact that the prevailing rains last Autumn prevented the sowing of the usual breadth, while the lateness of the sowing, the poor quality of the seed, and the severity of the Winter, leave small hope of good crops to our trans-Atlantic neighbors.

Again, as we write, the sounds of martial music, and the gathering hosts of armed men that almost momentarily pass our window, betoken an impending war of no small magnitude. Of that war, its causes, and its aims, this is not the place to speak. So much is certain, that if continued, it will transfer a vast multitude from the producing to the consuming classes. As one result, those who are not called from their homes to the service of their country, will find more work upon their hands, which, with the increased demands upon their fields, will require greater skill and effort.

The foreign demand will alone greatly stimulate the market for agricultural products, and enhance prices, thus affording means for liquidating debts incurred for land, and for implements, and other liabilities, perhaps unwisely contracted in the past. Let, then, every cultivator of the soil take hold with increased energy and confidence, and spare no effort of hands and brain to secure at least "one bushel more," either by tilling better than ever before, or by increasing the area under cultivation, or by both of these means.

DRIVING MOLES FROM THE CORNFIELD.—Mr. G. writes to the *Agriculturist*, that in Indiana moles are troublesome in cornfields in the

Spring, and it often requires considerable replanting to repair their mischief. The remedy used is, to commence plowing immediately on the first appearance of their depredations. Some use what is called a "bull tongue," made by taking a heavy piece of scantling, mortising a hole through it, and putting in a "coultter" similar to one used for "breaking sod," so as to let it run ten or twelve inches deep, letting the scantling slide on the ground. This cuts across their underground pathways, and they will soon retreat from the field. The plowing is often commenced before the corn is up.

The Draught of Plows—A Trial.

Unquestionably the plow is the most important implement of agriculture, as now conducted. That it is to be supplanted, at no distant day, by other improved mechanical agencies for breaking up the earth's surface, we can hardly doubt; but now the plow lies at the base of all good tillage, and it is the implement with which is performed the bulk of the work for preparing the ground for all field crops. Upon the perfection of his plow mainly depends the success of a farmer. A plow ill fitted for breaking and turning the soil, or one requiring a needless expenditure of team power, is costly at any price, compared with one which does its work well with much less power. A plow that can be moved with a steady draught of say 300 lbs., may be worked all day by a team of given power; while another, requiring 400 lbs. steady draught, would keep the same team pulling at their utmost strength, worrying and fretting them, and rapidly exhausting their strength. It is perhaps safe to say, that the team which could just draw a 300 lb. plow easily, would last twice as long, that is, twice as many years, with the same amount of food, if kept on such a plow, as if driven before a plow of 400 lbs. draught. Or to put it in another form, if a man can with one style of plow do a third more work in a day—equivalent to a saving of 75 cts. or \$1, it is certainly bad economy to use an inferior implement. Doubtless it would be profitable to burn up half of the poor farm implements now in use, and buy better ones. It is important, then, for farmers to take into account the draught of a plow, as well as other items.

This matter was suggested by some experiments we witnessed near our residence, April 15, to test the relative draught of several plows. Those which we noted most carefully, were two "Eagle Plows No. 20," of cast iron; one "Eagle Plow No. 19½," of cast steel; and No. 2 of a new patent, called the "Cylinder Plow." A dynamometer was placed between the team and the plow, to measure the amount of draught required. Every precaution was taken to have the width and depth of furrow the same for each plow.

One trial was upon a stiff sod, with a span of horses. Eagle plow, No. 20, cast iron; furrow, 12 inches wide, and 6½ inches deep. Average draught shown by the dynamometer... 570 lbs.

Eagle plow No. 19½, a trifle smaller than No. 20, made of steel; furrow 12 by 6½ inches. Average draught... 520 lbs.

Cylinder plow, No. 9, cast iron. Furrow 12 by 6½ inches. Average draught... 410 lbs.

A trial was then made upon another farm, on a less compact soil—a sod not so tough as the above—and with a steady ox team. An Eagle plow, by another manufacturer, No. 20, cast iron, in use in the field, was tested with the dynamometer. Width of furrow 12½ inches,

depth 6½ inches. Average draught... 420 lbs.

The same team was then attached to the Cylinder plow No. 2, about the same size as Eagle plow No. 20. Width of furrow 12½ inches; depth 6½ inches. Average draught... 305 lbs.

Here was certainly a marked difference in the draught required for two plows, worked under precisely the same circumstances, and doing the same amount of work equally well—a result which we should not have credited, had we not witnessed the experiments, and even assisted in directing them, for we have long been partial to the "Eagle plow." There are several new features in the Cylinder plow, which are claimed to be important, though we gave most attention to the draught, as much had been claimed for this. A rain storm prevented further experiments for the day. We think the new plow will supersede even the Eagle, if the manufacturers do not claim too much for it, and put the price too high. It is an Ohio patent, but arrangements are made to manufacture them in this City and elsewhere, we believe.

For the American Agriculturist.

A Cheap Paint.

About seven years ago, a Mr. Wheeler of this place, built a bridge for the town, which he painted with the following composition; water lime (hydraulic lime) mixed with skimmed milk to the consistence of common paint. It was put on with a short-handled whitewash brush; eight or ten quarts were mixed at a time, and 2 or 3 coats were applied; it can be shaded by addition of various coloring matters to suit the taste or fancy. The bridge was painted seven years ago. I pass it almost weekly, and I always supposed it was covered with lead paint, until told to the contrary.

This paint is adapted to coarse, rough, outdoor-work, and out buildings—which are covered with unplanned boards. There are a number of barns in this vicinity painted with this mixture; they have a rather neat appearance in contrast with those not painted. The cost is but little, the lime can be procured for \$6 to \$9 per barrel. [Often for \$1.25 to \$3.00.—Ed.] Those who have used it, speak well of it. Any one can put it on with a whitewash brush.

Madison Co., N. Y.

GEO. W. BAKER.

For the American Agriculturist.

High Manuring Pays.

In the Spring of 1859 I planted 3 acres and 35 rods of land with potatoes, applying 125 carman's loads of New-York stable manure per acre. The crop was remunerative, paying the cost of manure and labor. In September following, I sowed it with Michigan Blue Stem Wheat, applying 200 lbs. Peruvian guano per acre; in the Spring of 1860 sowed clover seed. In July, 1860, harvested the wheat; yield 117 bushels, or at the rate of 36½ bushels per acre.

This may not be considered by some as a large crop, but it is quite double the quantity that I formerly raised upon this farm, before adopting the plan of high manuring. The account with the last crop stands as follows:

Value of crop at \$1.60 per bushel.....	\$187 20
EXPENSES.	
600 lbs. Peruvian guano, at \$35 per ton.....	\$17 40
3½ bushels seed wheat, at \$1.60.....	5 60
Team, 3 days plowing and harrowing.....	\$2.25 6 75
Harvesting.....	5 25
Carting and stacking.....	2 50
Threshing, cleaning, and carting grain.....	11 70—\$49 20
Net gain.....	\$138 00
With the land left well seeded to clover.	
Suffolk Co., N. Y.	GEO. R. UNDERHILL.

Draining—Why—Where—How.

(Continued from page 105.)

HOW.

Deep Open Ditches are sometimes the only practicable drains, as, for example, in new swampy land so wet that more substantial covered drains can not be put down until the bulk of the standing water is drawn off. They are also necessary in some localities, as on the Western prairies, where wood, stone, or tiles, can not be obtained for constructing covered drains. They are likewise the most feasible in the rice lands of the South, where the water is required for flooding, and where the cheapness of the land, and the uniformity of culture, renders of little account the waste of surface required. And we would advise their use in any locality where nothing better *will* be adopted. On very many fields a larger and better crop would be obtained from the remainder, if one-fourth or more of the surface were occupied by open ditches. But such drains are always objectionable on lands devoted to general culture. They waste space; they are in the way; their banks are the nurseries of foul weeds; and the expense of the constant clearing out they require, would ordinarily pay a large interest on the cost of covering them at first.

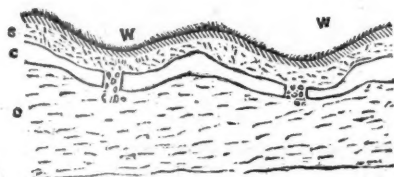


Fig. 7.

Well-Drains.—The want of an outlet is one of the greatest obstacles that many persons have to contend with; and as we happen to be just in a condition to sympathize with those so situated, we will speak on that topic first. Fig. 7, represents a section of ground where the upper layer, *o*, is a porous loam, under which is the impervious clay, *c*. At the depressions, *w, w*, the water collects from the adjacent higher lands, and is retained there. When the bed, *c*, is of great thickness, we know of no help, if it be impracticable to cut deep drains through the higher ground for an outlet. We have seen many such hollows on the Western prairies. In some instances it may pay to dig out a pond or small lake at the lowest point, large enough to hold the surplus water from the adjacent land, and run drains into this artificial receptacle.

But in many of these hollows or valleys the most of the water gradually settles away, which indicates a subterranean outlet. In fig. 7, is represented an artificial opening down through the clay into a porous soil, *o*. The coal or carboniferous strata underlying much of the prairie country, and the fact that water in wells often stands far below the surface, are indications that well-drains will be found practicable in many of the prairie hollows which are now deemed incurably wet. The feasibility of opening well-drains down into open subsoils is worthy of the attention, not only of prairie farmers, but of others who have no convenient outlet for drains. This point has not received the attention it deserves, from those who have written on the subject of drainage. Let it be noted that:

In a large proportion of the wells of the country, the water generally remains at ten and often forty to fifty

feet below the top, and however great the amount of surface draining the well receives, the water rapidly settles down to its usual level. Does not this plainly indicate that there is, between the surface of the water and the mouth of the well, a porous strata that carries off the water down to the point where it remains stationary? It is not then reasonable to suppose that whenever a deep well is required, or the water stands permanently at a considerable depth below the surface, such wells, or others constructed for the purpose, may be used for outlets to drains?

Our own land lies upon a gentle slope, inclined sufficient to admit of good drainage, were it not for a rise of land a little below us, which would require heavy ditching to furnish an outlet. But well-drains, or what are here termed "cess-pools,"—that is, permanent openings through the layer of "hard-pan,"—save the necessity of other outlets. Under the cellar we have a dry well 20 feet deep, which carries all water to a bed of sand and gravel, so that the cellar itself is perfectly dry at all seasons. Last summer we dug a cess-pool 17 feet through an impervious compact bed of clay loam, literally a hard-pan, and then 8 feet further in a sandy layer. It was stoned up to the top, and the main outlets of over 300 feet of drains conducted into it. The result was, that a large flow of water was carried off, leaving the well or cess-pool dry. (During the winter several feet of clay and fine soil washed in from the new made drains, and choked up the outlet at the bottom, and at the time of this writing, the cess-pool is nearly full of water, though it is gradually sinking away. When dry enough, it will be cleaned out; and two or three further clearings will be required, before the loosened soils around the drains becomes so thoroughly settled as to prevent further washing in of earth.) We expect to drain several acres in the same manner during the present year. Our experience, so far, indicates that it will be better to make the cess-pools wider at the bottom, say 8 or 10 feet, and to take greater care in putting down the drains to prevent the washing in of soil. It may be remarked, that our cess-pool is covered with locust logs, overlaid with flat stones, 4 feet below the surface—a man-hole 2½ feet square enclosed with heavy plank being left for an entrance when necessary to clear out the soil washed in.

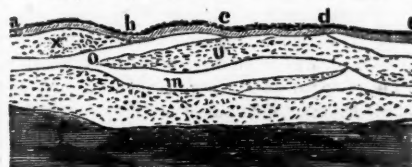


Fig. 3.

There is therefore little loss of ground. The soil is cultivated directly over the cess-pool.

In fig. 3, for example, a hollow, when to the right of *d*, might be drained by digging down through the clay into the porous soil beneath. And even at *b*, should the clay bed, *c*, chance to rise up at the left so as to interrupt the water, a well might also be sunk through the clay bed, *m*. The instances are so numerous where these well-drains are practicable, that no one should consign to a perpetual swamp-hole any rich bed of muck that might be his best soil if drained, until certain that no subterranean outlet is practicable.

We dwell thus long upon these various arrangements of the soil, and the results, not only as suggestive of practical methods of overcoming difficulties, but also with a hope of awakening an interest in the study of the character and

arrangement of the soils which underlie our cultivated fields. Wood, stone, and tile drains will occupy further articles on this subject.

Pipe Drains for House Slops.

"A Reader," in Oneida Co., N. Y., inquires as to the success of our pipe drain leading from the sink, etc., to the manure cellar at the barn, as described last August, Vol. XIX, p. 234. This drain is constructed of glazed earthen or stone-ware pipes, 5-inches inside diameter, in joints of 2 feet each, the small end of one fitting into a neck in the next piece. It extends from the house 213 feet, with a regular descent of one inch in three feet, and opens into the manure vault partly under the stables. There is a little descent in the ground, so that the lower end is 4½ feet below the surface, and the upper or house end about 18 inches below, with a three-necked syphon piece, to receive one pipe from the sink, another from a chamber water-closet, and a third from a box (with a coarse strainer) on the outside of the house, into which are poured all slops, washing water, and all fluids not proper to be put into a sink. Anything that will not pass through the strainer, is taken out and carried to the manure cistern.

After eleven months' trial, it works first rate, and we would not part with it for ten times its cost (which was \$45.72). The manure saved—the slops all going into the stable droppings and waste litter—doubtless pays the cost of the drain in a single year. It has not clogged, or emitted any stench; the syphon prevents the latter. The ease with which filthy water is got rid of, and the consequent neatness and healthfulness, are also greatly in its favor. Though so near the surface at the upper end, it has not been disturbed by freezing—doubtless owing to the fact that the last 30 feet is imbedded in sand and gravel which carries off all water, and prevents much heaving by frost. The ground around it must have congealed to the depth of 18 inches or more during the past Winter. We have full confidence in its durability. The soap suds on washing days dissolve off greasy matters that might otherwise collect in the internal surface. If this were not the case, we should occasionally pour in a strong solution of potash, to clean the pipe. This method of getting rid of house-slops, and at the same time turning them to good account as manure, we can recommend more strongly than ever. Those wishing more definite information can obtain it, by referring to the article of August last. [That or any other number for the past four years can always be procured post-paid for a dime each; or the bound volumes at \$1.50 each (\$2 if sent by mail). Unbound volumes sent post-paid, \$1.12 each.]

About Plaster of Paris.

"Young Farmer," of Perry County, Mo., asks several proper questions regarding plaster; and many others propose one or more queries. Let us talk a little on the subject, and first;

What is Plaster of Paris?—Put a piece of burned or unburned limestone, or marble, or chalk, in an earthen or glass vessel, with a little water, and pour in some sulphuric acid (called oil of vitriol). A milkiness will appear in the water, and after a time a white powder will settle to the bottom, if the water be not in large quantity. This powder is what is called "Plaster of Paris." It is composed of sulphuric acid and lime, and the proper name is "*sulphate of lime*." We wish

all our readers would always call it by this name—the name indicates what it is composed of. The same substance is often called *gypsum*. It is found in large quantities in the form of solid stones or rocks in very many places—sometimes of a pure white; sometimes colored by iron or other metallic salts; and sometimes it is beautifully crystalized almost like glass. In its solid white or crystalized form, it is often called *alabaster*, and is cut into vases and other ornamental work.

The solid sulphate of lime (plaster) contains considerable water. Thus, a piece of the crystal, or of the solid stone weighing 100 lbs., contains about 33 lbs. of lime, 46 lbs. of sulphuric acid, and 21 lbs. of water. Heat it strongly, and you expel the water, leaving only the sulphuric acid and lime. It is then called calcined plaster. Wet this and it will absorb the water again, and form a compact solid lump in a few minutes. It is thus used to take casts, and for plastering, etc. It was called plaster of Paris, because first used extensively in Paris for plastering. In Germany it is usually called gypsum.

The calcined plaster is not good to use on the soil, because when moistened, it forms hard masses. The ground stone, unburned, is the material employed as a fertilizer. The refuse plaster which has been wet and hardened in stereotype foundries, and in other manufactories where plaster is used for taking impressions, for casting images, etc., if ground up fine again, would doubtless be just as valuable for applying to land, as the ground stone unburned. The burning only drives off the water combined with the plaster which is taken up again when it is wet for use.

Sulphate of Lime as a Fertilizer.—For a long time past it has been found that the unburned stone ground to powder and applied to land, is often a very useful manure for many crops—and especially for clover. Twenty years ago, on the homestead farm, we were accustomed to go 40 miles for loads of plaster, during Winter, paying \$4 to \$6 per ton for it ground at the mill. It was sown broadcast on the wheat fields in the Spring, at the rate of 200 to 400 lbs. per acre, and also upon summer fallow, and on wheat soils in the Fall before the final harrowing. It was also spread broadcast on corn land, and harrowed in before planting. Sometimes seed corn was wet and rolled in plaster, and at other times a handful was sprinkled in each hill. In all these methods it was generally considered a paying application, though wheat averaged less than \$1 a bushel and corn less than 40 cents. It was frequently useful in all kinds of crops, but not uniformly so. The most paying application was on wheat land sown with clover seed in the Spring. A strip through a field sown with plaster, could be pointed out by the most casual observer by the better straw and grain; while the clover after harvest, indicated unmistakably the good effects of even 100 lbs. of plaster per acre. It was often tried upon meadows of timothy (Herds-grass) with good results frequently, but not uniformly so, and its use was ultimately confined mainly to wheat and clover, peas, corn, barley, and oats. On some fields, and in some years, it appeared to be less useful, than in other instances, though we do not recall an instance of its having failed to benefit clover. We had no soil so poor that we could not get a good growth of clover by using plaster, with a little yard manure sometimes; and when we could turn under a large growth of clover, the soil was reliable for one or more heavy crops of wheat or corn. A trial of it was

the only means of knowing on what soils it would be most beneficial.

What we have said of our own experience, is true in the case of thousands of farmers the country over; and the probability that it will be useful on any soil, is so strong, that we have uniformly advised all farmers to make at least one trial of it—particularly on clover and wheat. From 150 to 500 lbs. per acre may be tried, sowing it broadcast on the growing crop; or what may be just as well, and often better, sow it upon the plowed ground and harrow it in before seeding with the grain. Let it be tried upon grass land, on corn in the hill and broadcast, and on other crops; but never condemn it until it has been tried on clover.

How it benefits the crop, we need not discuss at length, for no one knows certainly. Some say one or both of its elements (sulphuric acid, or lime,) furnish special mineral food to the plant. We have favored the theory that it acts as an absorber of ammonia from the atmosphere, for the use of the plant. Its best effects with us were on a loam soil, already filled with lime, and abounding in limestone boulders and rocks. The lime could not be needed as a specific food in such cases. The water in the soil was abundantly saturated with lime, so much so that well and spring water rapidly produced lime incrustations in a teakettle. We repeat again, that theory is at fault, and a trial can only determine where it will be useful, and where not.

The plaster sold throughout the country, is generally pure enough for agricultural purposes, but not always so. The purest is a white tasteless powder. It is often of greyish color, owing to a very little admixture of iron, etc., but this does not materially lessen its value. It is also sometimes mixed with ground clay, stone, slate, etc. The following tests can be applied by any one.

1. Heat a handful to redness on a shovel, and let it cool. If it tastes strongly alkaline, like lime or potash, the presence of ground limestone is evident.

2. Take a little fresh from the barrel, and pour on it a few drops of sulphuric acid. If it effervesces (boils) there is ground limestone or marble present, the amount of impurity depends upon the amount of effervescence.

A Thousand Weeds at One Pull.

A single pigweed (*Chenopodium album*) if left undisturbed, will ripen more than 10,000 seeds, each capable of producing a successor. The seeds of the dock, sometimes number over 13,000 on a single plant, and the toad flax (*Linaria vulgaris*) leaves provision for more than 45,000 plants the following year. Burdock will multiply 21,000 fold, and the common stinging nettle (*Urtica dioica*) ripens 100,000 seeds. Scarcely a weed comes to maturity without scattering from 1,000 to 10,000 or more seeds, to injure crops and annoy the cultivator. This is not mere guess work, for painstaking investigators have actually counted and calculated the increase. A single pull at the commencement of the season, will destroy the whole progeny.

It should be remembered that seeds mature sufficiently to vegetate before they are perfectly dry; and again, that the seeds are ripe on one part of a plant while there are flowers on another. Hence it is not safe to wait till the flowers are gone, before pulling up weeds. Attack them before they blossom. Pull them up, or, if annuals, cut them off when quite green; and spread them in the sun to die. He who allows the weeds to grow in his potato field until

he harvests the crop, is quite sure to sow many millions of seeds for next year's trouble.

This much for annual and biennial weeds. Perennials, like the dock, daisy and thistle, should be treated with greater vigor. Cutting off the tops once will not suffice. Digging them up one by one, root and branch, is the only effectual remedy. Where they have invaded a whole field, plow up the land in the Fall, leaving many of the roots exposed to the action of the Winter's frost. Plow again in the Spring, taking pains to pick out and carry off every root that appears. Devote the soil to some hoed crop, and let it be repeatedly and thoroughly cultivated through the Summer, waging war upon the pests without any relenting. If they are cut off below ground several times in the Summer, they will grow weaker at every decapitation. The leaves being the lungs of plants, are essential to their breathing, and if this important operation be stopped, they must soon give up the ghost. Remember, every extermination of a weed this year, is the death of a thousand of the future crop.

Detecting Frozen Seed Corn.

John G. Stranahan, Macomb Co., Mich., writes that seed corn injured by freezing, may be detected by closely examining the part of the hull covering the germ of the kernel. When uninjured, the thin skin or hull is smooth over the whole kernel, but if injured by frost, it will be loosened from the kernel, particularly at the germ. It is important to take every precaution in this matter, as hundreds of acres fail every year from imperfection in the seed, much of which is undoubtedly caused by having been frosted before dry. In all cases it is better to sprout a little before planting, to test its goodness.

Experiment in Butter Making.

Mr. Zoller, of St. Lawrence Co., N. Y., at the request of the Committee of the State Agricultural Society, as we learn by their report, made an experiment as to the two much-discussed modes of making butter. He took 208 qts. of milk and strained into pans, set till the cream had thoroughly risen, and skimmed and churned cold, and obtained 17½ lbs. of butter, ready for packing. The next day he took the same quantity of milk, strained it into the churns, and let it stand till sour, but not loppered, then churned and treated in the same manner and obtained 19½ lbs. of butter. Analysis alone can show whether the increased quantity of the second is caused by a larger percentage of casein, or by more perfectly extracting the butter. If the quality of the butter is equally good, Mr. Zoller's method is worthy of the attention of our dairy men.

TO KEEP BUTTER SWEET.—D. Edson Smith, contributes to the *American Agriculturist* the following directions for preserving butter in good condition for any length of time. In May or June when butter is plenty, work it thoroughly two or three times, and add at the last working nearly one grain of saltpeter and a teaspoonful of pulverized loaf sugar to each pound of butter. Pack it tightly in stone jars to within two inches of the top, and fill the remaining space with strong brine. Cover the jars tightly, and bury them in the cellar bottom, where the butter will keep unhurt for a long time.

For the American Agriculturist.

More on the Carrot Question.

I have raised carrots for the last ten or twelve years, almost exclusively for my own feeding, and have every reason to consider them a profitable crop. I have always practiced giving extra feed to milch cows in Winter, and before using carrots, I commonly fed bran, shorts, or mill-feed, as we called it—being the offal of wheat left in flouring. This could formerly be bought for 5 to 8 cents per bushel weighing 20 lbs. But by improved machinery for grinding grain and separating the bran, the weight has been reduced to about 14 lbs., and the price has also been raised by the demand. This led me to adopt carrots as a substitute. You ask on page 43, (Feb. No.) "Will not a peck of ship feed mixed with cut straw be worth more than a peck of carrots?" This, in my opinion, depends upon its weight. If like some of the finer kinds, which weigh 20 to 30 lbs. per bushel, it may equal the carrots in value; though it will not produce as rich butter when fed to cows. In my own practice I am satisfied of the superiority of carrots over mill-feed.

As to the actual value of carrots, the following calculation may aid in forming an opinion. I find that corn which yields 100 bushels of ears to the acre, will make a fair sized stook to 25 hills, and this, when corn is planted 3½ feet apart each way, will make 142 stooks to the acre. Each stook will make 3 large bundles of stalks, or 426 per acre. Four of these bundles, 1½ at morning and night, and 1 at noon, with a peck of carrots per day will keep a cow better than hay. At the above rate, an acre of corn would yield fodder enough to last a cow 106 days. To keep her on hay an equal time, feeding 25 lbs. per day, would cost \$13.25, reckoning hay at the moderate cost of \$10 per ton.

Stalks are estimated here at about \$5 per acre: this deducted from \$13.25 would leave \$8.25 as the value of the 26½ bushels of carrots fed in 106 days; or 31 cents per bushel. Many may think the stalks estimated at too low a figure, but I think the increased value of the butter produced by feeding with carrots, would balance the amount of under-estimate, if any.

For other stock than milch cows, I think carrots are worth 20 cents per bushel. When cattle or horses are confined to dry feed, a mess of 6 or 8 quarts of carrots twice a week would, I think, do them as much good as the same amount of dry feed; but when fed in large quantities, say a bushel a day to cattle, they do not pay as well—they appear to be better adapted to feeding with hay and grain, than to take the place of either.

ORLEANS CO.

Potatoes Cheaply Grown.

As usually cultivated, potatoes require a serious amount of heavy work in planting, hoeing, and harvesting. Anything which promises to lighten the labor of raising this indispensable crop, is worthy of consideration. The editor of the Illinois Farmer proposes an apparently feasible method, where the soil will admit. Corn stubble, or ground previously occupied by some other hoed crop, is chosen, a light furrow, about three inches deep, is struck, and the soil deepened seven to nine inches by the subsoil plow. A boy follows the subsoiler, and drops the seed potatoes, which are cut so as to leave one or two eyes to the piece, and laid one foot apart in the furrow. The next shallow furrow slice covers

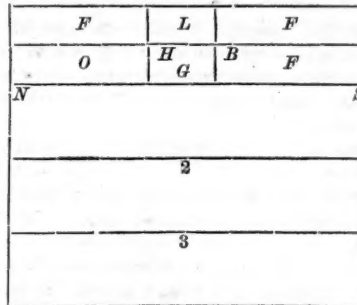
the potatoes, and the subsoiler is run through as before. At the third furrow, three feet from the first, another row of potatoes is dropped, to be covered up by the next furrow slice, and so on, until the field is finished. In this way, the weeds, etc., are all turned under, the best soil is left for the nourishment of the growing crop, and the whole field is also subsoiled. Two teams, and a boy to drop in the seed, will put in near two acres a day.

After planting, the land is left until the shoots begin to break the ground, when a two-horse harrow is thoroughly used, followed by a roller to pulverize the soil. In about a week they are ready for the cultivator, with which they are dressed once a week until six inches high, and then slightly banked up with a shovel plow. When the blossoms are set, another banking up is given with a large shovel plow. Weeds growing afterward, are kept down with a cultivator, or by hand labor, but the hills or drills are not disturbed. The fork spade is recommended for digging the crop, but this labor may also be lightened by the use of a potato digger, drawn by a horse.

Laying out a Farm—Economy in Fencing.

A subscriber in Champaign Co., Ill., asks for the best method of laying out a forty acre farm. The house, he says, stands nearly in the middle of the east line, and back thirty rods from the road. In front of it is a low wet spot, etc.

It is impracticable to answer the many such requests that are daily received for information for the special benefit of individuals, but the following suggestions may be of service to many somewhat similarly situated.



One of the first points to be studied, is economy in fencing. As usually laid out, farms at the East have four rods of fence where one is needed. One, two, and three acre lots are common, and many persons have actually expended more for making stone walls than their farms would sell for. We suggest as the first division of a farm similar to the above, a line running just back of the house and parallel with the road from the north to the south line of the farm. (N. to S. on the diagram.) The wet place in front of the house we would drain and cover over, making all smooth and dry from the house, H, to the road. An acre of ground, L, will be enough for the lawn, and this may be bordered with fruit or ornamental trees. In the rear of this and adjoining the house, a large garden, G, may be arranged. The remainder of the front lot can be devoted to orchard, O, and feeding lots, F, according to the stock kept upon the farm and the circumstances of the owner. B, marks the location of the barn and cattle sheds. If seven acres be devoted to these small lots and the farm buildings, it will leave thirty three acres in the remainder of the farm. These might be divided into three more

lots by running two fences, 2 and 3, parallel with the first, at equal distances apart. This would make three eleven-acre lots, and they might be cultivated in a three years course, until the owner was ready to buy more land.

The rotation might be, corn on the sod first year, wheat the second, and grass the third. The rotation will have to be determined by the circumstances of the owner, and the markets to be supplied. If many cattle are kept, and grazing is the main object, the lots can be kept longer in grass.

In regard to the drainage in front of the house, if neither stone nor tiles are available, a drain may be made of logs, or even boards, that will last many years. The appearance and healthfulness of the place will be very much promoted by a covered drain.

The best Tool for Tillage.

The stirring of the soil, after the crops are started, is a matter of the first importance. From one-half to three-fourths of a crop of corn may be made by tillage alone. On old land, well stocked with weeds, not over twenty bushels to the acre could be realized without cultivation. Twice hoeing and cultivating would probably add ten bushels to the acre, and twice more would bring the crop up to forty bushels per acre. We have seen estimates from farmers, who experimented upon this point, showing that every hoeing added from five to ten bushels to the acre.

A great deal of ingenuity has been expended upon the implements of tillage. The hoe is good enough, but for its expensiveness. The light horse plow, or sweep, is much more economical; but these tools require two or three furrows to each row, and are a pretty heavy tax upon the strength of the horse. The horse harrow, and cultivator, are great improvements upon the plow, for they are much lighter, and stir the ground deep enough. The horse-hoe is a much lighter implement than the cultivator, and if a farmer is investing in new tools, he should get this in preference to the cultivator. It is merely a question of economizing the strength of the horse. A good steel-toothed cultivator will make a clean sweep of every weed within an inch of the rows of corn, and stir the ground deep enough. A horse-hoe could not do the work much better, though it would draw easier, and the horse might get over a little more ground in a day.

We need not so much better implements of tillage, as a more frequent use of those we have. Corn can be cultivated wholly with the horse, after the first weeding, if the rows run both ways; and we doubt if any better use can be made of horse flesh, after the first of June, than to keep it running between the rows of corn. We are confident that five times cultivating will pay much better than once, or twice. As between the horse-hoe, and the steel-toothed cultivator upon smooth land, we should say, that is the best which is most used.

PROFITABLE DAIRY.—Mr. Reuben Haynes, of Barre, (Mass.) stated to the Mass. Legislature Ag. Society, that a neighbor of his kept 24 cows last season from which he made 650 lbs. of cheese per cow, which brought him 10½ cts. a pound. The calves were sold for \$12 a head, and each cow should be credited with \$10 worth of butter, besides the whey and buttermilk fed to the hogs; thus giving a return of \$88.62 per cow

Fig. 1—PIGEON TREMEX (*Tremex Columba*)—PERFECT INSECT.

Microscopic Views of the Insect World.

BY MRS. CHARLOTTE TAYLOR.

PIGEON TREMEX—*Tremex Columba*.

A few years ago this insect was considered very rare; collectors thought they obtained a prize when it was added to their cabinet. Of late years they are rapidly on the increase, and are establishing themselves on fruit trees, to the destruction of many orchards. The one here represented, I caught last September, making her tenth orifice in a foreign plum tree, which had been nourished and treasured by its owner for three or four years, in hopes of obtaining a gratifying result. I hear complaints of them from every part of the country.

It belongs to the division Hymenoptera, first family Tenthredo—subgenus Tremex. It is a large insect, two inches in length; wings brown and semi-transparent, with two cubital cells extending more than two inches; the mandibles, *b*, Fig. 2, trifid and strong; the antennæ, *c*, Fig. 2, have fourteen joints; the palpi, *d*, Fig. 2, are three-jointed. The legs have singular hooks

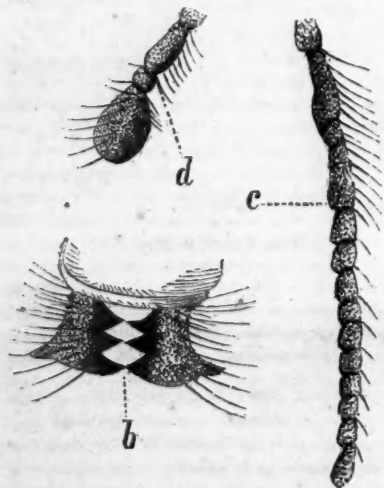


Fig. 2—b, Mandibles or jaws—c, Antennæ—d, Palpi.

which enable the female to grasp with strength the bark of the tree on which she is at work with her saw. The parts of the body where

you see the light points, Fig. 1, are of a bright yellow—the remainder a rich reddish brown. She has seven ocelli (little eyes) between her large eyes. Her saw, *h*, Fig. 3, is a most effective instrument. It is hidden under the abdomen, covered with a sheath—it is only protruded its entire length when in use; this sheath is strongly toothed as well as the saw. When she has selected a tree, she bends her body and commences the hole with her borer, *j*, Fig. 4. When the orifice is large enough, she uses her saws—first horizontally, then lengthwise, until the opening suits her in length and breadth. The instrument

is then closed and drawn up in part, when an egg slides gently down into the cavity prepared for it, over which falls a drop of frothy fluid which protects the egg until it is hatched, which occurs in two or three weeks, when the depredation commences on the tree. The grub is cylindrical in shape at first, growing two inches, with a conical point at its tail, which enables it to push its way through the sawdust

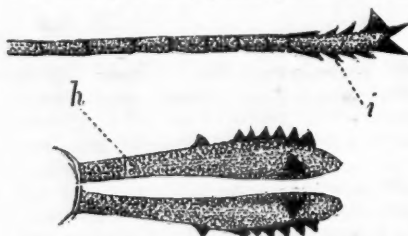


Fig. 3—h, Saw and sheath—i, Borer.

and excrement it accumulates in its burrow. They frequently remain over two seasons, boring their runs deeper and deeper, until the tree is completely sapped and destroyed. Every fir and pine tree, some years ago, was touched with one or more of these depredators, but now they have commenced on fruit trees, and we must be on the lookout to stay their progress if possible. During the warm weather the larvæ, *m*, Fig. 5, can be seen coming to their holes and protruding their heads as if to look round the world. They go into transformation by closing up both ends of their hiding places with sawdust, and spinning coarse, strong cocoons; here they remain over the Winter, coming out perfect insects in the latter part of July.

Very luckily for us, sometimes the mother fly bores in with her saw to such a depth that she can not withdraw it, and consequently dies in the performance of her maternal duties. But our greatest dependence is on a small Ichneumon fly—the *Pimpla vivida*—Active Pimpla. Fig. 6.

These flies are very numerous, depositing their eggs in the same holes with those of the Tremex, which in time come out and feed upon her larvæ, going into cocoon in the same orifices, and coming out in time, perfect insects.

The ovipositor of this Ichneumon, is a

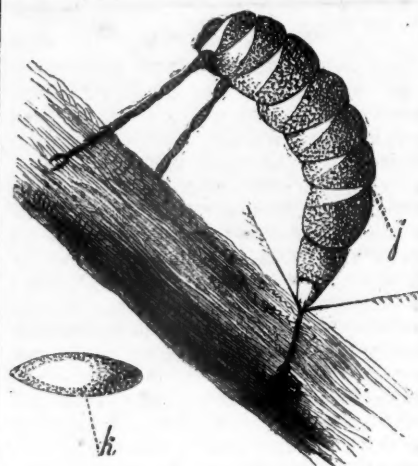


Fig. 4—j, Insect commencing to bore—k, Egg.

saw within a sheath, like that of the Tremex. It is necessary to enable her to penetrate the fluid dropped on the egg, which when dry becomes firm and solid. This fly is black, has clear transparent wings, yellowish legs and an-

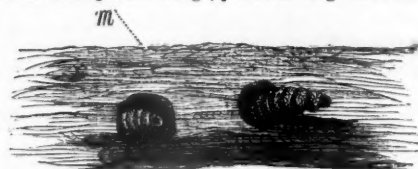


Fig. 5—m, Larvæ in their holes.

tennæ. Often it thrusts its ovipositor to such a depth, that it is caught like the Tremex, and dies the same miserable death.

The best mode of destroying these insects is to examine the trunk of the tree very carefully, and wherever a hole made by one, is found, thrust a knitting needle into it as far as possible; dip it frequently into a small bottle of turpentine, and close up the hole with a paste made of wood ashes finely sifted, mixed with salt. This remedy has never failed when carried out with care. If we reflect, we can see the use of these apparently obnoxious insects, in keeping down an exuberance of vegetation, destroying super-

Fig. 6—Active Pimpla (*Pimpla vivida*.)

abundant trees in our immense forests—thus making room for a younger growth.

The progress of knowledge is slow. Like the sun, we can not see it moving; but after a while we perceive that it has moved onward.

Foot Rot in Sheep.

As warm weather approaches, the inexperienced owner of sheep may be surprised some morning to see numbers of his flock limping about the field; an expert will at once recognize symptoms of the foot rot. An examination of the foot of a sheep so affected will show the presence of disease in the skin and flesh in the cleft of the hoof. In the first stages, there is inflammation in the hinder part of the cleft, where the naked skin appears. Ulceration follows, and extends to the whole inner part of the foot, until in time the horny covering is separated from the flesh, and hangs by the skin at the upper part. A most offensive discharge issues from the sore, attracting the fly, which deposits eggs in the diseased part, and the whole becomes a living mass of corruption. The rot may be confined to one foot, or it may affect all at the same time. Unless cured, it will destroy the sheep, which must suffer excruciating pain as the disease progresses. In the latter stages, when the foot is completely disorganized, the poor animal is often compelled to hobble about upon its knees; and in many instances, the discharge from the feet has saturated the wool, attracting insects which have burrowed into the skin and added to the torments of the sufferer.

Numerous experiments have shown the disease to be highly contagious. A healthy sheep inoculated in the foot with virus from the ulcer of a diseased animal will be sure to take the infection. It has been spread through large flocks by the introduction of a single infected animal; and it is believed by many experienced flock masters, that the poison is retained for a long time in pastures where such sheep have fed.

It can be cured. Mr. Randall, in his "Sheep Husbandry" gives an interesting account of his successful treatment of a flock numbering about eight hundred head, that took the rot from a few imported animals. His method was substantially as follows: Choose a time, if possible immediately after a rain, when the hoofs are softened by the wet grass. Drive them into an enclosure thickly littered with straw, to keep the feet clean. Take each suspected sheep, lay it partly on its back and rump between the legs of the operator who may be seated in a chair. If the hoofs are too long, shorten them with toe-nippers. Remove all filth from the toes by drawing a wet cloth through the cleft.

If the erosion and ulceration are confined to the cuticle and flesh in the cleft *above* the walls of the hoof, no paring is necessary. But if the ulceration is established between the hoof and the fleshy sole, the ulcerated parts *must be entirely denuded of their horny covering*, by paring with a sharp knife. In an advanced stage of the disease it may be necessary to remove the entire hoof, as all loose horn should be cut away. If maggots appear, pour on a little spirits of turpentine and they will leave. Then cleanse the foot with a wash made of one pound of chloride of lime to one gallon of water; or with water alone, heated to near scalding. If there be "proud flesh" remove it with scissors, or by burning with hot iron. If the disease is in the first or second stage, and no abscesses are formed in the flesh of the sole, a thorough application of a saturated solution of blue vitriol will be sufficient. One pound of vitriol will suffice for ten or fifteen sheep. Put the solution in a tub, keep it as hot as can be borne by the hand, and when the hoof is pared, hold the sheep so that he will stand in the tub five minutes. Keep the solution hot by adding fresh supplies. If

abscesses are already formed, go over the diseased surface with muriatic acid, which may be conveniently applied with a swab of tow; after which apply the vitriol solution. Then coat the wounded surface with tar, to keep out dirt and flies, examine it every three or four days, and repeat the treatment if needed, and a cure may be looked for with reasonable certainty. *

"Sparred" Floors for Stables.

Quite a controversy is going on among our cotemporaries in regard to the best stable floors. The fact seems to be overlooked that the circumstances of farmers are widely different, and what may be the best stable floor for one, would be very bad, or the worst, for another. Alderman Mechi has adopted sparred floors, or those made of joists set edgewise, with more or less of space between them, according to the size of the cattle to be stabled. He has several objects in view in this kind of flooring. He wishes to turn all the droppings of his cattle into liquid manure, to be distributed over his farm by means of pipes and hose. He has large tanks underneath the stables, into which all the manure falls through the sparred floor. Here it is mixed with water, and prepared for distribution. Of course, there is no fermentation of the manure, and no release of gas from beneath, to affect the air of the stables. He also designs by this method to save straw, which would be needed for bedding with tight stable floors. He claims a great saving in using straw for food.

It is no doubt true that sparred floors keep cattle clean with little bedding, and save much labor in removing the manure. But almost all of our modern barns are constructed with reference to making compost, and the stables are arranged immediately above the barn cellars. The cellar is usually open upon one side, and the sparred floor would give a constant draft of cold air from beneath. However well this might answer in Summer, it is an insuperable objection in Winter. They should not be used unless the cellar is made perfectly close. The saving of labor and straw are the main advantages of this floor.

Another style of floor is the raising of the bottom of the stall four or five inches above the gutter immediately behind the animals. The platform is of tight plank, and inclines two or three inches toward the gutter, this carries off all the manure, and keeps the animal dry and comfortable, without bedding. This may be the best flooring for those who have no muck available, or refuse material for bedding.

Others, who have well dried peat or muck, and bedding, prefer to keep these articles constantly under their cattle. The quantity of urine that a load of dry peat will absorb, is much greater than any one supposes, who has never tried the experiment. A layer a foot thick, with a little straw, will keep the animal dry and comfortable for a week or more. The solid feces have to be removed daily. The animal heat is made available for the decomposition of the turf, and the manure heap is increased more rapidly by this method, than by any other we have ever tried. The peat is also very much broken up, and comminuted, by the continued tramping of the animal's feet. Almost every particle is brought into repeated contact both with the urine, and with the atmosphere. As soon as the mass becomes thoroughly moistened, and before it is saturated, it is thrown into the cellar, and replaced with a new bedding. For the man who has plenty of the raw material for

manure making, this will be found to pay much better than sparred floors.

Galls on Horses.

As the heat and labors of the season increase, horses will suffer from various flesh-wounds, which, if not immediately cured, will cause great suffering to the horse, and waste of time and temper to the owner. Let, therefore, a hint or two be now heeded:

Prevention is better than cure. In the first place, be sure that your harness is in perfect working order. See to it especially, that the collar fits well, and is smooth and hard. If the inner surface is rough, it must chafe, and soon wear off the skin. A loose layer of leather under the collar, is a good contrivance to lessen friction upon the animal's neck and shoulders.

While Spring work is pressing, let the horses' shoulders be washed, every other morning, with a solution of alum and whiskey. This being a powerful astringent, will serve to toughen the skin and prevent its breaking. At night, when coming home from work, sweaty and sore, let the shoulders be washed with tepid water, then rubbed dry. If, notwithstanding these precautions, galls occur on the breast or back, wash them clean, then apply an ointment made by mixing together a spoonful of pulverized alum and the white of an egg.

For the American Agriculturist.

Cost of Keeping a Horse.

During the past Winter, as well as on previous occasions, I have calculated the cost of keeping horses, both young and old; and my experience has led me to believe that a horse weighing 1000 lbs., and being worked more or less, several times a week, can be well kept on fifteen lbs. of hay (five lbs. at each meal) with three quarts of corn, or six quarts of oats per day. The cost will, of course, vary according to the prices of hay or grain: when hay is worth, as it now is, \$20 per ton at the barn, and oats 50 cts. per bushel, the cost would be about \$1.70 per week. Many owners of horses, especially farmers, are apt to give their horses too much hay. It is not necessary that the feeding rack should be kept full of hay all the time; this is decidedly injurious to their health and usefulness. If the hay is cut, they can consume enough in six hours out of the twenty four, two at each meal, to keep them in good condition, and they will be much less liable to contract diseases, especially heaves, than if more is fed to them.

F. E. HOWARD.

The Family Pig.

Thousands of our readers reside in villages, on homesteads of less than an acre, and raise, or might raise, with little expense, their own pork. Some have given it up from the rather vague conjecture that home-made pork costs more than that which is bought in the pickle. They have never kept accurate accounts, but the frequent calls for another bag of meal, or corn, give them the impression that piggy is a very expensive animal. They do not like the bother of slaughtering, of cutting up and salting, of curing and smoking hams. So the pig sty is abolished, and they forego the luxury of home-made pork.

The writer confesses a penchant for this article, so decided that he would continue its manu-

facture, if he knew it cost a cent or two a pound more than the prime pork of the market. We have occasionally had to fall back on the market, with such unfortunate experience, that we were inclined to believe the stories about the unwholesomeness of swine's flesh. The pork of the West, fattened wholly, or in part, upon mast, is certainly a very different article from that made in a clean sty, upon nicely cooked Indian meal, with the slops of the house for a condiment and change of diet. This, according to the writer's experience, is always a wholesome article of diet, and almost indispensable in house-keeping. It always swells in the pot, and cooks to advantage. What were baked beans, or the imperial dish of succotash, without the piece of fat pork, unstreaked with lean? Your boiled chicken, or mutton leg, were vanity without this accompaniment. He who has not eaten pan fish, fresh from the sea, seasoned with slices from the pork barrel, has never eaten fish in their perfection.

The family pig pays his way as well as any other animal about the house, and is a necessary link in economical house-keeping. He saves all the wastes of the table, and turns them into nice lard, and clean cuts of ham better than any sugar-cured article from Cincinnati. The housewife, or cook, however wise or prudent, must have some waste potatoes, bread, pudding, corn cakes, and griddles, in imminent peril of spoiling. Piggy saves them all as carefully as if they were sixpences.

Then he is an industrious manufacturer, turning every sod and weed thrown in the sty into gold. Give him the material, and he will make at least ten dollars' worth of manure in the course of the season. With plenty of manure, there is almost no end to the luxuries you can conjure from the little homestead of an acre. To say nothing of a dozen kinds of vegetables, the year round, there are nice dishes of strawberries, raspberries, and the smaller fruits in Summer; grapes, pears, peaches, and plums in Autumn; and apples for Winter. These all spring from the contents of the sty, and manure can be made cheaper there than it can be purchased.

In May, villagers usually select pigs, and put them up to fatten. It is a question whether Fall or Spring pigs are the best for this purpose. Pigs eight weeks old in May, with good care, will each make from 250 to 300 lbs. of pork by Christmas. Wintered pigs, weighing a hundred, live weight, ought to make from four to five hundred pounds of pork each by the same time. They are the more economical, but the pork is not quite so delicate, and there is a little more difficulty in curing the hams. With good management, we can make pork from either, for less than five cents a pound. *

Pigs more Profitable than Calves.

To the Editor of the American Agriculturist.

Early in April last year, I purchased 13 pigs, 4 or 5 weeks old, which were kept until October. I also raised 9 calves; and I send herewith an account of the manner of feeding them, and the results. When the calves were a week old, they were fed with skimmed milk, mixed with a little shorts, middlings, and poor wheat ground but not bolted, which is excellent for them. The ground feed was introduced gradually, commencing with a tablespoonful each, and increasing the quantity as they grew older. If fed too freely at first, it is apt to scour them, in which case the feed must be lightened until they are all right again. The litter in their pen

was changed every few days, for they should be kept dry and clean. I gave them fine soft hay once or twice a day until turned out into a field where the grass had a good start. Each calf was fed separately, as some eat faster than others, and would get more than their share if the milk were put in a common trough. When about three months old, a trough was placed near where they had been fed with milk, and bran or shorts was given once a day. The quantity was increased when the milk feed was stopped. The calves were red, Devon grades. They were in good condition, and were worth on the first of October from \$6.50 to \$7 each. I offered to sell them at the latter price, but found no purchaser.

The pigs were fed all the sour milk they would eat, mixed with a little meal, the quantity being increased as they grew larger. They had the range of the orchard until sold, which was on the first of October. They averaged 200 lbs. each, gross weight, and readily brought 5 cents per lb. or \$10 each, except three which were kept until December, and weighed when dressed, 265, 251 and 230 lbs. respectively. I paid \$2 each for the pigs in the Spring, and therefore received \$8 for the milk and meal fed to each one. The cost of the meal given to them was a little more than of the shorts, etc., fed to the calves, and the trouble of feeding the pigs was much less. I therefore conclude that when pigs will sell for \$4.50 to \$5 per cwt. gross, they are more profitable than calves. G. W. B.

For the American Agriculturist.

Poultry Raising—Black Spanish Fowls—Cracked Corn for Food.

I commenced keeping poultry three years since, by purchasing seven hens of mixed breed, and had the usual success with them. Not being fully satisfied with the result, I last year bought a pair of pure blood black Spanish fowls, and set every egg the hen could be induced to lay, using for nurses other hens of a less valuable sort. When possible, I set two hens at the same time, and turned the broods together after hatching. In this way I secured some fine broods of chickens, in my opinion the most graceful creatures that ever walked in a poultry yard. These were fed during infancy upon corn just cracked in a large coffee mill kept for the purpose, and every one was raised without any trouble. If this rule of feeding were invariably adopted, the disease called gapes, would not be known. At any rate, I have never had a case of that fell destroyer of chickenhood, since using this kind of food. The same food is equally good for ducks, and I believe for all poultry. When food is ground very fine, it produces derangement of the functions.

As soon as the chickens would swallow whole corn they were fed upon that, and since Feb. 11th, they have well repaid my care, with abundance of eggs of the most delicate flavor; for these eggs have a peculiar richness, superior to those of larger, coarser varieties of fowls.

My experience with the black Spanish hen has been, that she does not want to sit so often as the common kind, nor is she so tenacious of the idea when once possessed of it; one or two days confinement are usually enough to cure her.

In fine, I have proved to my own satisfaction, that hens of a good variety, not too old, can be kept to advantage, if properly housed, and fed on an abundance of wholesome food, such as corn, sunflower seeds, scraps of meat, boiled po-

tatoes, etc.; without putting peppercorns into their crops, or dosing with sulphur, cayenne, or any thing of the kind.

L. B. R.

Eagleswood, N. J.

About Turkeys.

Who that has any savory recollections of last Thanksgiving Day, or of Christmas, and who that knows what large profits can be made out of these birds, does not wish to try his hand at raising a brood or two this Summer? Here are a few suggestions on the subject:

Experienced breeders insist that for raising good healthy broods, an old turkey is much better than a young one. A bird does not arrive at full maturity until from two to three years old. Audubon, the great American Naturalist, says: "The third year, the male turkey may be said to be an adult, although it increases in weight and size for several years more. The females at the age of four, are in full beauty." It is well known that when farmers have killed off their old birds, and raised their broods successively from young gobblers and pullets, the progeny has grown smaller every year. Chicks so raised are tenderer, and more likely to die off from cold and exposure. Hence the frequent remark from sagacious breeders, that you might as well think of improving your flock of sheep by breeding them from lambs, instead of vigorous, mature sheep. As a general rule, the cock and hen should be three years old and upward, and the two of different breeds. Every year, the earliest hatched, most vigorous, and best formed young birds should be selected for future breeders, and the others killed off when wanted.

During the Fall and Winter, turkeys need only moderate feeding, but as Spring opens, let the amount be increased, especially during laying time. Considerable pains should be taken at this last period, to tame them. After they have laid their first litter—say fifteen to twenty five eggs—break up their nests, but do it without their knowledge. Continue to feed and cosset them, and in a fortnight's time, they will begin to lay again. It is thought a good practice to turn over the eggs once or twice a week. When they have laid their second nest full, and show a disposition to set, let them do so. Put their first lot of eggs under a common hen, at the same time; and when they are hatched, give the chicks to the turkey-mother, who will take care of both broods. The turkeys should be hatched by the middle of June, or first of July, at the latest, so as to have them pretty strong before frosty weather sets in.

Considerable pains will need to be taken with the young broods. At first, they should be kept in a shed, or on a barn floor, where they will be warm and dry. For the first few days, give them hard boiled eggs grated fine. Then add to the eggs, some curd of sour milk. Then, afterward, for variety, feed a little stale bread crumbs. When they are a month old, give them Indian meal mixed with warm water. Set pans of sour milk where they can get a daily sip, if they like. Until they are ten days old, they should be housed at night, and let out during the day. When about a fortnight old, if the weather is then warm and settled, it is an excellent plan to make a large pen, a rod square, of boards sixteen inches wide, and keep the brood in that until they are able to fly over it. After that, they will take care of themselves, only they should be fed once a day to keep them from roving too far and too long from home.

Important Reports on Apples.

(Continued from page 110, which see.)

The reports below, together with those of last month, will be found of great value to those who wish to select apples for an orchard, or even for a small plot of ground. The reader will note that the reports are from all parts of the country, and from some of the leading and most noted fruit growers, editors, etc.: such as Hon. M. P. Wilder, Col. Dewey, Dr. J. A. Warder, Dr. Grant, Messrs. Parsons & Co., P. Barry, L. Maxwell & Brother, Isaac Hicks, A. Saul, R. Buist & Son, Joseph S. Cabot, etc.—indeed, almost every report is from high authority.

In the last number will be found reports from Mr. Peter B. Mead, editor of the Horticulturist, and from Mr. Wm. S. Carpenter, who thinks the Gravenstein the best apple in cultivation. To these reports we append as many of the remarks which accompanied them, as our limited space will allow. We have on hand several reports that are crowded out of this number, which we shall publish next month, and also give a summary of all the reports, with general remarks:

Summer. | Autumn. | Winter.

33. Bangor, Me.—Report from Henry Little.

William's Favorite.	Gravenstein.	Baldwin.
Sops of Wine.	Duchess of Olden.	Ribston Pippin.
Red Astrachan.	Porter.	Hub. Nonsuch.
s. Yellow Bough.	Fameuse.	Roxbury Russet.
	s. Golden Sweet.	s. Ladies Sweeting.

34. Rockingham Co., N. H.—Report from Wm. H. Hills.

William's Favorite.	Porter.	Baldwin.
Sops of Wine.	Gravenstein.	Hub. Nonsuch.
Red Astrachan.	Piper (local).	Marston's Red W'r.
s. Yellow Bough.	Wine Apple.	R. I. Greening.
		s. Calif Sweet, (10/1)

35. Merrimac Co., N. H.—Report from Henry C. Blinn.

Shropshire Vine.	President.	Herefordshire P'n.
Early Harvest.	Autumn Beauty.	Baldwin.
s. Yellow Bough.	Gravenstein.	Red Cheek.
	s. Fine Apple Rus.	Esopus Spitzenburg
	set.	s. Danvers Winter.

36. Dorchester, Mass.—Report from Marshall P. Wilder.

William's Favorite.	Gravenstein.	Baldwin.
Early Harvest.	Washington.	R. I. Greening.
Red Astrachan.	Porter.	Roxbury Russet.
s. Yellow Bough.	Pomme Royale, or	Hub. Nonsuch.
	Dyer.	King Tompkins Co.
	s. Golden Sweet.	s. Ladies Sweeting.

37. Hampden Co., Mass.—Report from B. K. Bliss.

Early Strawberry.	Fall Pippin.	Baldwin.
Early Harvest.	Porter.	R. I. Greening.
William's Favorite.	Gravenstein.	Roxbury Russet.
s. Golden Sweet.	Maiden's Blush.	Northern Spy.
	s. Pumpkin Sweet.	Hub. Nonsuch.
		s. Talman Sweeting.

38. Worcester, Mass.—Report from J. M. Earle.

Early Harvest.	Porter.	Baldwin.
Red Astrachan.	Gravenstein.	R. I. Greening.
William's Favorite.	Fameuse.	Hub. Nonsuch.
s. Yellow Bough.	Mother.	Cogswell.
	s. Sheppard's Sweet.	Roxbury Russet.
		s. Ladies Sweeting.

39. Salem, Mass.—Report from Joseph S. Cabot.

Early Harvest.	Gravenstein.	Baldwin.
Red Astrachan.	Hub. Nonsuch.	Minister.
William's Favorite.	Fameuse.	Peck's Pleasant.
s. Early St. Bough.	Porter.	W. Seek-no-further.
	s. Pumpkin Sweet.	R. I. Greening.
		s. Ladies Sweeting.

40. Providence Co., R. I.—Report from Josiah Keene.

Sapsan.	W. Seek-no-further.	Baldwin.
Juneating.	Porter.	R. I. Greening.
Early Harvest.	Minister.	Roxbury Russet.
s. Yellow Bough.	Fall Pippin.	Peck's Pleasant.
	s. Jersey Sweeting.	Newtown Pippin.
		s. Talman Sweeting.

41. Hartford Conn.—Report from Daniel S. Dewey.

Early Harvest.	Fall Pippin.	R. I. Greening.
Red Astrachan.	Pomme Royale, or	Baldwin.
Early Strawberry.	Dyer.	Peck's Pleasant.
s. Golden Sweet.	Gravenstein.	Roxbury Russet.
	Porter.	Black Gilliflower.
	s. Yellow Bough.	s. Belden Sweet.

42. Stonington, Conn.—Report from W. Clift.

White Juneating.	Porter.	Roxbury Russet.
Red Astrachan.	Cogswell Pearmain.	R. I. Greening.
Early Harvest.	Gravenstein.	Baldwin.
s. Yellow Bough.	Fall Pippin.	Peck's Pleasant.
	s. Sheppard's Sweet.	Hub. Nonsuch.
		s. Sweet Russet, 10/1.

43. Litchfield Co., Conn.—Report from Horace Humphrey.

American Summer	Late Strawberry.	R. I. Greening.
Pearmain.	Gravenstein.	Baldwin.
Early Harvest.	Fall Harvey.	Red Canada.
Red Astrachan.	Fall Pippin.	Baldwin.
s. Golden Sweet.	s. Victoria.	Peck's Pleasant.
		s. Pumpkin Sweet.

44. Queens Co., (L. I.) N. Y.—Report from Parsons & Co.

American Summer	Fall Pippin.	Baldwin.
Pearmain.	Porter.	R. I. Greening.
Early Harvest.	Gravenstein.	Newtown Pippin.
Red Astrachan.	Fameuse.	Boston Russet.
s. Yellow Bough.	s. Willis' Sweeting.	Herefordshire P'n.
		s. Talman Sweeting.

45. Newburg, N. Y.—Report from Dr. C. W. Grant.

Early Harvest.	Prime.	Vandevere.
Red Astrachan.	Fall Pippin.	W. Seek-no-further.
Early Strawberry.	Porter.	Baldwin.
s. Large Yellow	Mother.	Northern Spy.
Bough.	s. Autumn	Am. Golden Russet.
	Bough.	s. Ladies Sweeting.
		s. Sweet

46. Westchester Co., N. Y.—Report from A. P. Cummings.

Early Harvest.	Porter.	Northern Spy.
Red Astrachan.	Gravenstein.	R. I. Greening.
Early Strawberry.	Fall Pippin.	Esopus Spitzenburg
s. Yellow Bough.	Rambo.	Baldwin.
	s. Jersey Sweeting.	Swear.
		s. Ladies Sweeting.

47. Queens Co., N. Y.—Report from Isaac Hicks.

Early Harvest.	Am. Summer Pear-	Hub. Nonsuch.
Summer Rose.	main.	Peck's Pleasant.
Summer Hagloe.	Gravenstein.	Baldwin.
s. Golden Sweet.	Porter.	Red or Str'd Pippin.
	Fall Orange.	s. Ladies Sweeting.
	s. Autumn Bough.	

48. Hudson, N. Y.—Report from Wm. Brocksbank.

Early Harvest.	Gravenstein.	R. I. Greening.
Red Astrachan.	Porter.	Baldwin.
William's Favorite.	Fall Pippin.	Spitzenburg.
s. Yellow Bough.	Maiden's Blush.	Jonathan.
	s. Golden Sweet.	Roxbury Russet.
		s. Talman Sweeting.

49. Geneva, N. Y.—Report from T. C. Maxwell and Bro.

Prime.	Maiden's Blush.	King Tompkins Co.
Early Harvest.	Gravenstein.	R. I. Greening.
Red Astrachan.	Hawley.	Baldwin.
s. Yellow Bough.	Twenty Onnee.	Hub. Nonsuch.
	s. Jersey Sweeting.	Wagner.
		s. Talman Sweeting.

50. Rochester, N. Y.—Report from P. Barry.

Early Harvest.	Gravenstein.	Fameuse.
Red Astrachan.	Fall Pippin.	Baldwin.
Prime.	Porter.	Northern Spy.
s. Yellow Bough.	St. Lawrence.	R. I. Greening.
	s. Jersey Sweeting.	Monmouth Pippin.
		s. Talman Sweeting.

51. Newburgh, N. Y.—Report from A. Saul.

Early Harvest.	Prime.	Baldwin.
American Summer	Porter.	Hub. Nonsuch.
Pearmain.	Hawley.	Jonathan.
Early Joe.	Fall Pippin.	Melon.
s. Yellow Bough.	s. Autumn Bough.	Northern Spy.
		s. Ladies Sweeting.

52. Wilson, N. Y.—Report from E. S. Holmes.

Early Harvest.	Fall Pippin.	R. I. Greening.
Red Astrachan.	Gravenstein.	Baldwin.
Keewick Codlin.	Lowell.	Roxbury Russet.
s. Yellow Bough.	Fall Juneating.	Esopus Spitzenburg
	s. Holmes' Sweet.	King Tompkins Co.
		s. Talman Sweeting.

53. Niagara Co., N. Y.—Report from Youngstown Farmers' and Gardeners' Club.

Early Harvest.	Gravenstein.	Baldwin.
Red Astrachan.	Prime.	Esopus Spitzenburg
American Summer	Fall Pippin.	R. I. Greening.
Pearmain.	Fameuse.	Roxbury Russet.
s. Yellow Bough.	s. Golden Sweet.	Swear.
		s. Talman Sweeting.

54. Philadelphia, Pa.—Report from R. Buist & Son.

Bohannon.	Autumn Pearmain.	Baldwin.
Early Harvest.	Fall Pippin.	Smith's Cider.
Red Astrachan.	Rambo.	Monmouth Pippin.
s. Summer Sweet	Porter.	Northern Spy.
Paradise.	s. Sweet Vandevere.	Swear.
		s. Ladies Sweeting.

55. Carlisle, Pa.—Report from D. Miller, Jr.

Early Harvest.	Jeffers.	Lancaster.
Red Astrachan.	Porter.	York Imperial.
Early Ripe.	Rambo.	Orley.
s. Summer Sweet	Smokehouse.	Fornwalder.
Paradise.	s. Cumberland.	Newtown Pippin.
		s. Ladies Sweeting.

56. Westchester, Pa.—Report from J. Butter.

Early Harvest.	Jeffers.	Baldwin.
Summer Pearmain.	Hub. Nonsuch.	Fornwalder.
Red Astrachan.	Strode's Birm'g'm.	Smith's Cider.
s. Yellow Bough.	Smokehouse.	R. I. Greening.
	s. Jersey Sweeting.	L. I. Russet.
		s. Winter Sweeting.

57. Wilmington, Del.—Report from Geo. Pepper Norris.

Jeffers.	Fornwalder.	Smith's Cider.
Maiden's Blush.	Rambo.	Baldwin.
Strode's Birm'g'm.	Smokehouse.	Golden Russet, N.Y.
s. Caleb Sweet.	Summer Pearmain.	Pennock.
	s. Talman Sweeting.	s. Christiana.

58. Pocahontas Co., Va.—Report from Isaac Moore.

Sine qua non.	Fall Pippin.	Rambo.
Early Harvest.	Gravenstein.	Golden Russet.
Long Stem.	Wine Sap.	R. I. Greening.
s. Yellow Bough.	s. Fry Apple.	Esopus Spitzenburg
		Hugh's Pippin.

59. Adams Co., Miss.—Report from S. L. Grier.

Early Harvest.	Elgin, or Heinette.	Nickajack.
Red Astrachan.	Fornwalder.	Goldensap.
Carolina Red June.	Harrison.	Carter.
	Gravenstein.	Disharoon.
		Lumber Twig.

60. Jefferson Co., Ky.—Report from H. B. Byram, Ed. Val. F.

Early Harvest.	Maiden's Blush.	Banle's Janet.
Carolina Red June.	Fall Queen.	New York Pippin.
American Summer	Rambo.	Jonathan.
Pearmain.	Pennsylvania Red	Wine Sap.
	s. Stroak.	Yellow Bellflower.
		s. Red Win't Sweet

61. Herrman, Mo.—Report of Gasconade Co. Agr. Associa't'n.

Early Harvest.	Vandevere of N. Y.	Newtown Pippin.
Red Astrachan.	Golden Pippin.	Banle's Janet.
Maiden's Blush.	Yellow Bellflower.	Michael H' Pippin.
s. Yellow Bough.	Fameuse.	Orley.
	s. Sweet Romanite.	Millam.
		s. Talman Sweeting.

62. Cincinnati, O.—Report from Dr. J. A. Warder.

Prince's E. Harvest.	Maiden's Blush.	Yellow Bellflower.
Summer Rose.	Lowell.	Baldwin.
Carolina Red June	Rambo.	Banle's Janet.
s. High Top.	Fall Queen.	Jonathan.
	s. Big Pompey.	Cannon Pearmain.
		s. Broadwell.

* The Green Sweet of Indianapolis.

63. Huron Co., Ohio.—Report from C. B. Simmons.

Early Harvest.	Fall Pippin.	R. I. Greening.
Summer Rose.	Late Strawberry.	Baldwin.
s. Yellow Bough.	s. Jersey Sweeting.	Spitzenburg.
		Red Canada.
		s. Broadwell.

64. Portage Co., Ohio.—Report from J. Bond & S. A. Spicer.

Early Strawberry.	Golden Pippin.	Roxbury Russet.
Early Harvest.	Fall Pippin.	Spitzenburg.
Red Astrachan.	Pomme Royale, or	R. I. Greening.
s. Yellow Bough.	Dyer.	W. Seek-no-further
	Long Sower.	Belmont.

65. Adrain, Mich.—Report from Horticultural Society.

Early Harvest.	Pomme Royale, or	Belmont.
Red Astrachan.	Dyer.	Northern Spy.
Am. Summer Pear-	Late Strawberry.	R. I. Greening.
main.	Gravenstein.	Baldwin.
s. Yellow Bough.	Fameuse.	Yellow Bellflower.
	s. Jersey Sweeting.	s. Talman Sweeting.

66. Knox Co., Ill.—Report from A. Williams.

Early Harvest.	Am. Summer Pear-	Roman Stem.
Carolina Red June.	main.	Yellow Bellflower.
Early Pennock.	Maiden's Blush.	Jonathan.
s. High Top.	Fameuse.	Banle's Janet.
		Willow Twig.
		s. Talman Sweeting.

67. Adams Co., Ill.—Report from D. C. Benton.

Early Harvest.	Fall Pippin.	Winter Juneating.
Carolina Red June.	Maiden's Blush.	Wine Sap.
Red Astrachan.	Gravenstein.	Millam.
	s. Golden Sweet.	Roxbury Russet.
		R. I. Greening.

68. Great Salt Lake, Utah.—Report from Thomas Bullock.

Early Harvest.	Utah Pippin, (ed'g)	Spitzenburg.
Red Astrachan.	Mountain Chief, do.	Golden Russet.
Yellow Bough.	Rambo.	R. I. Greening.
s. Valley Sweet,	s. Woodruff's Sweet	Baldwin.
(seedling).	Pippin.	s. Spice Sweet.

REMARKS BY THOSE REPORTING.

35. Mr. B. says the Cathed originated in Concord, N. H., and is one of the finest Summer Apples, both for dessert and for cooking. He places the President at the head of Autumn apples.

38. Mr. E. says that there are other kinds that he wants to get in; for instance, he balanced between the Fameuse and Leland's Spice, and selected the former as more uniform in its quality, though not so good an apple as the latter. The Duchess of Oldenburg, and the Maiden's Blush are both beautiful fruits, enormously productive, of the first quality for the kitchen, and very salable in the market. For Winter the Ribston Pippin is capital, and Mr. E. is not certain that it should not take the place assigned in the list to the Cogswell.

39. Mr. C. says there are perhaps some varieties that he should prefer to some of the above, but he has not tried them sufficiently to justify their recommendation as best for cultivation.

41. Col. Dewey remarks, that the Fall Pippin may be kept good until the middle of March. He thinks the Jonathan will rank 4th or 5th among Winter Apples, when it is better known.

49. This selection is made for general family use.

50. Mr. Barry remarks that in his list, some of the best apples of their seasons, such as Early Strawberry, Summer Rose, Pomme Royale, Swear, Red Canada, Golden Russet, etc., are left out on account of some important defect. Individual tastes have much to do with a selection of this sort, yet Mr. B., in making this list, has endeavored to forget his own tastes and preferences, and only recommends those that have, in his judgment, a preponderance of the most important points of superiority.

51. This list is for the amateur. For eating, for family use, and for market, Mr. S. would add other sorts.

52. Mr. H. thinks that the King of Tompkins Co. will take higher rank when it is better known. Northern Spy is gaining in estimation in his region.

55. Mr. M. selected the apples giving most profit to the planter, rather than those having the highest character in point of flavor. Early Harvest is losing ground on account of its sometimes growing so imperfect. Early Joe is one of the best in flavor, but not so profitable, on account of not producing uniformly good crops of clear and perfect fruit. Early Ripe is a trifle later than Early Harvest, but handsomer and more certain of good crops. Esopus Spitzenburg is one of his favorites as to flavor and productiveness, but does not keep well.

61. This report was made out by a Committee of the Society, who paid due regard to the health, growth, productiveness and hardness of the trees, and to the value of the fruit both for market and table use.



HORSES—FROM A PAINTING BY LANDEER.
(Engraved for the American Agriculturist.)

THE ENGRAVING.—No artist has achieved such success in the portraiture of animals as Sir Edward Landseer, from whose painting this engraving is taken. All his works show a sympathy with his subject, which enables him to bring out upon the canvas, not only correctly drawn pictures, but apparently the very spirit of the animals represented. The attitudes, and expression of the horses here shown, are full of life.

One is attracted to them as though they were sentient beings, and not mere representations; and we greatly mistake if the pleasure derived from a repeated examination of the sketch does not amply compensate for the large space it occupies. No nobler subject among animals could have been selected for a painting. The horse deserves the place he enjoys in the esteem of man, for he may be made a friend as well as a servant.

He is capable of sharing the pride and returning the affection of his master; and kind treatment and judicious training will thus be amply repaid. The subordinate features of the engraving, are admirably managed—the introduction of the finely drawn dogs in the foreground, is in keeping with the whole, and completes one of the finest designs yet presented to our readers. Others equally attractive will be given hereafter.

May Day Festival—A Holiday of the Right Sort.

We do not refer now to any old English custom, nor to the time-honored usage of any country. Why may not Young America originate a festival for other nations to observe? We propose a May-Day Tree-Planting Festival. There is many a street or public square, or Academy-Green, or open ground around the churches in every town, which needs the shelter and shade of trees. It is not an easy work for individuals to attend to these public wants; at least, the work is not likely to be done if left to them. It needs the enthusiasm that comes from numbers associated together for a common object, and it needs their united strength. We therefore propose to our friends everywhere, to fix upon the first of May, or some day soon after, when they will turn out together for a tree-setting holiday. The particular method of doing this work is not very important, but some kind of plan should be fixed upon, and measures taken to carry it out effectively.

Here is one plan: the inhabitants of North Street agree to devote the 10th day of May to adorning their street with two rows of shade trees. Each man promises to be on the ground at ten o'clock A. M., with five trees of the best sort ready for planting. After all have arrived, and exchanged greetings, they appoint one of their number President for the day, and then proceed to planting. The holes are to be dug of generous size, the trees are to stand at least eight feet from the fences, so as to allow of ample side-walks, and thirty to forty feet apart, so that the tops of the trees may develop their foliage fully on every side. Each tree is to be set out carefully, so that it will be sure to make a vigorous growth. All these matters are to be looked after by the President, who is armed, for the day, with despotic power.

We forgot to mention, above, that their wives and children and sweet-hearts are to accompany the planters—not to hinder their work, but to cheer it on, and crown its close with a collation. If an address be given by the clergyman of the parish, or by some other suitable person, and if there be toasts and short speeches and singing by others, these things will add much to the interest of the occasion. This is but one plan; perhaps a better can be adopted.

Doubtless, many of our readers will remember that, last year, when it was announced that the Prince of Wales would visit Canada, the leading men of Toronto consulted together how they might secure some lasting memento of his visit. They at length determined that the remembrance should be in the shape of an avenue of trees to be called "the Prince's Walk," and to be formed along one of their finest streets and bordering the Esplanade. Last Spring, a company of gentlemen, among whom was the bishop of Toronto, proceeded to carry out the design, by planting quite a number of trees on the spot referred to, leaving intervals for his Royal Highness to fill up when he should visit the city. The long expected time and the noble visitor arrived, and the trees were planted, and they will doubtless live and flourish in memory of the Prince, long after he has passed away from the earth.

Now, every one will exclaim, "Good!" to that. The tree-planting was good, and the loyal and friendly feeling for the young Prince was good. We have, indeed, no Royal visit to commemorate, but we have other reasons enough to induce us to adorn our road-sides with umbrageous trees. Shall not this work be prose-

cuted this Spring, with great energy? What say our young readers, and the older ones, too, who have not lost all the juices of their youth, or their public spirit!

Letter from Pod Auger, Esq.

DWARF APPLES—GRAPES—WHITE STRAWBERRIES.

Up in the Mountains, Tioga Co., Pa.
In the Spring of 1861.

MR. EDITOR: Nearly two years ago I think, (see Vol. XVIII, 1859, Feb. No.) I did indite an epistle unto the editor of the *American Agriculturist*, humbly entreating said Editor, or some of his 500,000 readers to give a tyro some information on the subject of dwarf apple trees. The letter was duly published, with a note by the Editor, asking some one to respond; but unfortunately the subject only related to that old-fashioned fruit, the apple, and no one did so. The horticultural and pomological world being just then rather absorbed in the all-engrossing question of pear on pear, *versus* pear on quince, I was left to the pursuit of pomological "knowledge under difficulties," and thrown back on the *Yankee* within me. Having frequent calls from tree-dealers, I took to button-holding them unmercifully for the desired information, and at last found out, what any intelligent pomologist should have been able to tell me, that the Doucain—much used for dwarfing the apple—was not a proper dwarf, but a slow-growing tree or semi-standard, while the Paradise was a true dwarf, which might very properly be planted at intervals of six feet. So much for dwarf and semi-dwarf stocks.

What varieties do best as dwarfs? That was the next question, and one not so easily answered by a tyro, while the information to be derived from dealers and propagators, who had large assortments of many varieties which they must sell or lose, did not seem the thing on which to rely, for one who could plant but a few trees, and could not afford to make mistakes. In order to come to this point rightly, I turned "observationist," and took to haunting the gardens of all my friends who had dwarf apple trees under cultivation. Fortunately, the past season was most propitious for observations of this character; and, putting what knowledge I have been able to glean the past season, with the notes of several previous years, I can name a few varieties of apples that may be depended on for a most liberal crop, either on the Paradise or Doucain: For two varieties, one summer and one winter, Early Joe and Wagener. For four varieties, add Red Astrachan and Baldwin.

There are doubtless other varieties nearly as productive as the above, but, of some twenty varieties which I have seen fairly tried, they were the only satisfactory kinds; the Early Joe bearing full crops of "best" apples, and the Wagener overbearing, as it usually does in fact, either as a dwarf or standard; while the Astrachan and Baldwin have proved free, regular bearers.

Now, who can speak with knowledge and certainty as to the newer varieties of grapes? Not as to quality—that can be easily got at; nor as to rapidity of growth, or even hardiness, for these are points easily settled. But who can tell us how many of them will thrive when stubbed down to the short-rod system, or as one cultivator and writer recommends, *stubbed down to the ground every alternate year*.

How many, and which varieties, will continue thrifty and productive under the single cane system in vogue about Cincinnati? Will the Con-

cord? or the Clinton? Has any body tried it on the Hartford Prolific? on the Delaware or the Logan? and if so, with what success? Surely some of these varieties have been in cultivation long enough to have these points tested.

In my last I mentioned some varieties of wild white strawberries as being excellent, and so large as to seem worth the trouble of cultivating in the garden. Well, I tried them for two seasons, and made up my mind that they were "adapted to certain localities," said localities being side-hill pastures and meadows, mostly. They proved *very* productive in vines and foliage, but the berries were actually smaller than when grown in the wild state, and they were less productive, so I raised them on a spading fork, and threw them over the fence.

Yours, as of old,

POD AUGER.

A New Winter Pear.

The Duchesse d'Angouleme is not indeed the best Autumn pear, yet the vigor and productiveness of the tree, and the size and good quality of the fruit, when in perfection, make it a desirable variety for orchard culture. A like success, which no Winter pear has yet obtained, seems reserved for a new fruit, which was crowned by the Horticultural Society of Haute Garonne, France, and honored with the name of Duchesse d'Hiver, or Winter Duchess. The editors of the *Revue Horticole* highly recommend it from their own personal knowledge. Both on the pear and quince, it unites great vigor with great and precocious productiveness. The fruit in size, form and color, resembles the Duchesse d'Angouleme. The skin is of a much clearer green, less spotted, washed with red on the sunny side, and at maturity of a paler yellow. The flesh is melting, juicy, sugary, and often highly perfumed. It ripens gradually, from the first of January to the last of March. The blossoms, which are large and number from 6 to 8 in the same cluster, set well. We hope this may prove to be with us a desirable Winter pear. Many of our imported varieties are of the highest excellence, yet very often those that are greatly esteemed abroad, are here found to be of inferior quality.

Suggestions about Dwarf Pears.

The fine crops of pears on the quince stock, everywhere enjoyed last year, will undoubtedly revive the drooping faith of planters, and lead to larger and longer trials. A hint or two, here, may be of service to the young planter.

1. Take pains in the selection of varieties. Not every sort succeeds well on the quince-root. Some thrive well for a year or two, and then fail. Others do well if double-worked, i. e., if budded on a grafted limb. Study the fruit-books, and especially the reports of local societies. Consult some experienced and honest fruit-grower in the neighborhood, and find what his opinions are. Probably no one doubts that the Louise Bonne de Jersey, and Duchesse d'Angouleme, and Vicar of Winkfield, succeed well. Take these for granted. A few others may be added, on which, however, planters are not so unanimous. Among them we name: Osband's Summer, Doyenné d'Ete, Tyson, Buffum, Buerre d'Amanlis, Buerre Diel, Glout Morceau, Easter Beurre, Stevens' Genesee.

2. Choose low-worked trees. After a good deal of controversy, and varied success from different methods, planters are settling down

upon the opinion that little or none of the quince stock should be left above ground, in planting. A few still hold that it may rise an inch, or half an inch; others maintain that it should sink nearly an inch below. We incline to the latter doctrine. Being so planted, the quince stock is protected from the severities of northern Winters, and from the ravages of the borer. Then, too, this allows the pear stock to emit a few roots into the soil, which enable the tree to stand more firmly against high winds. If the pear stock is set much lower than this, it sends out large roots, and the tree ceases to be a dwarf.

3. In setting out trees, use no manure. The soil should be well trenched or plowed. After digging the holes, a few rich sods, or some leaf-mold may be thrown into the bottom, but the roots of the trees should be surrounded only with good common soil. During the Summer, mulch the surface with leaves or other like material. In the Fall, apply a peck or so of good half decomposed manure to the surface, and let it lie there until Spring, when it may be worked into the soil. Of course, the ground as far as the roots extend in it, (and they extend further than is generally supposed,) should not be cumbered with any growing crop—such a crop not only robs the tree of its appropriate food, but the digging of the soil during cultivation, is sure to mangle the roots of the trees.

Of the pruning of the dwarf pear, from year to year, we can not now speak. This has been done heretofore, and will be again, as needed.

Too Old to Plant Trees!

This is the complaint of many a man in middle life, or when rounding over the hill of his pilgrimage. He thinks he shall never live to eat of their fruit, or to sit beneath their shade; so it will be of no use to plant. He's too old, too old!

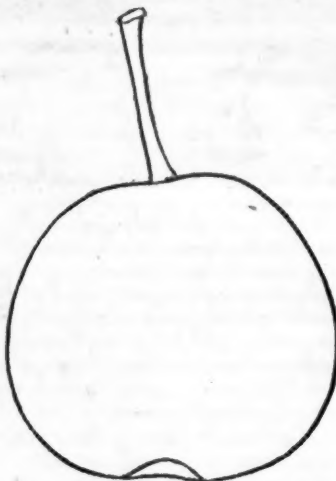
What if you *don't* live, dear man, that is no reason for not planting. Suppose your predecessors had refused to plant those orchards from which you annually gather apples and pears, what would have been your lot now? And would you bless or curse their memories, for their selfishness? Suppose your fathers had refused, for the same reason, to plant shade trees along the margins of your village streets, where would be those noble avenues in which the present generation rejoices, and which make your ancestors' names, words to be spoken only with reverence and praise! If you indulge such a churlish disposition, it is doubtful whether you *will* live very long to enjoy anything; such a spirit sucks the fountain of life dry, quite early. Each generation receives a dowry from the preceding, and should hand over the inheritance, much enlarged, to the following.

The Rural New-Yorker once reported the receipt of some extra fine maple sugar from Mrs. Knapp, of Clarkson, N. Y., who was then eighty five years old. This lady gathered the sap and made the sugar herself from trees planted near her dwelling after she was sixty years of age! What will our grumblers say to that!

NOVEL DECEPTION.—Adulterations of almost every article of food have long been practiced, but the following is new to us. Mr. W. L. Scott, in a recent communication to the London Society of Arts, states that he has seen English apples, of inferior quality, colored superficially in imitation of American Newtown pippins, and sold at the high price which the latter command in that market.

Doyenne d'Ete Pear.

We give below an outline of one of the best summer pears now grown. It ripens the latter part of July. The fruit is handsome, juicy, melting, delicious. The tree is a vigorous grower, and bears regular and abundant crops.



Mr. Barry's brief description is: "A beautiful, little, melting, sweet pear; tree a fine grower and bearer, and succeeds well on the quince.—August." Mr. Downing says: "Skin smooth, fine, yellow, often shaded with bright red, and covered with numerous gray or russet dots. . . . Flesh white, melting, juicy, with a sweet pleasant flavor. A very good early pear, ripening about the same time, or a little later than Madeleine.—Last of July." If any one has a blank in his list of summer pears, either on the quince or pear-stock, let him not hesitate to fill it with the Summer Doyenné.

Herbaceous Perennial Plants—Their Value, and how to Cultivate them.

Herbaceous Perennials are distinguished from annuals, by their living for many years on the same root; and from bulbous-rooted plants, by the quality of their roots and their habit of growth; and from shrubs, by the fact that their soft, succulent tops die to the ground every year. Among the herbaceous plants the most commonly known, are the Peony, tall Phlox, Dicentra, Sweet William, Chrysanthemums, etc.

It is a matter of no little surprise that this ancient and honorable family of plants should be less sought after than formerly. Bedding plants are "the rage" now, to a ridiculous degree. To be fashionable, and up to the times, a flower-garden must be in a blaze of brilliant colors, scarlet especially; there must be masses of verbenas, masses of petunias, masses of geraniums, and what-not hard-named exotics. We do not object to these plants; they should appear in every garden, if possible; but we *do* object to the taste which employs them to the exclusion of others; which prefers their flaunting, short-lived beauty, to the more modest and more varied colors of the hardy and perennial herbaceous plants.

These last named plants are fast friends. They do not give up the ghost at the first frost, but live at the root, year after year, and spring up every season with new freshness and vigor. We become warmly attached to the old acquaintances. Then, their management gives one but little trouble. They do not need to be taken up every Fall, and carefully housed through the Winter, and then re-set in the Spring, as do the

dahlias and the various bedding-plants. All they ask is a good, generous soil, and an occasional trimming or division of the roots when they become overgrown. This will happen, perhaps, once in three or four years. Then, too, they furnish a pleasing succession of bloom through the season. Week after week, from May to November, some new flower opens, giving us new colors, new forms, and new fragrance.

But we would not indulge in seeming lamentations: that would be going too far. Cockneys and shallow people may affect to despise everything beside exotics, but it is not so with truly sensible people, with those who love the garden for its own sake. The last named people prize these plants above every other, and do not fail to procure every new thing that is worthy of the company of their old favorites.

The cultivation of these plants is very simple. Different sorts succeed best in different soils, but, as a general rule, a light rich loam suits them all. For those that are slightly tender, Spring is the best season for transplanting, because when set out in the Fall, they are apt to be thrown out by Winter frosts. For those whose tops die down before Autumn, late Summer is the best season for transplanting; they will then get partly established before Winter. Most herbaceous plants are propagated by dividing the roots, which can be done with a knife, for small plants, and a sharp spade for large ones. Those which do not increase much at the root, may be propagated by layers. Bend down a thrifty shoot in June or July, cut it partly through, peg it down and cover it with three inches of dirt, laying over the whole a flat stone. By the month of October, it will be rooted and ready to be cut from the parent plant for removal.

Nearly all perennials are benefited by some kind of Winter protection. Few of them, indeed, will die, if unprotected, but to all it will be beneficial. A shovelful of strawy manure, or of forest leaves, or a little tan-bark, is just the thing. They will start earlier in the Spring, and grow more vigorously for the treatment. In the next article, will be found a list of select varieties of herbaceous perennials.

What Perennials to Cultivate.

Having given some directions above for the culture of these plants, we now add a short alphabetical list of the best of them, with brief descriptions annexed. The young planter will then have some idea of the size, color, and habit of each plant before getting it. This knowledge will also aid in the proper arrangement of the plants:

MILLFOIL. (*Achillea plarmica.*)—Has small, daisy-like, white and yellow flowers, in bloom nearly all Summer. Grows eighteen inches high, and is perfectly hardy everywhere.

CAMPANULA.—The pyramidal and a few other sorts are tender at the North, but most of the species are hardy as can be desired. The plants grow from one foot to two feet high; the flowers are mostly bell or cup shaped, double and single, blue and white. The peach-leaved is one of the finest species, and has many varieties. *C. Persicifolia*, single and double, white and blue, is very fine.

CARDINAL FLOWER. (*Lobelia cardinalis.*)—Native and everywhere known, this is yet a much admired flower. There is something peculiar in the brilliant scarlet of this plant. It was transported to England about two centuries ago, and at the time of its introduction, a gardening au-

thor said: "It is a flower of most handsome appearance, which should not be wanting in curious gardens, as it excels all other flowers I ever knew in the richness of its color." There are many in England and in this country now who would fully endorse this opinion. The native blue Lobelia is pretty, but not equal to the scarlet.

CLEMATIS.—Of the many beautiful Clematis vines, we do not now propose to speak, though we beg just to drop a word for the highly fragrant *flammula*. Among the strictly herbaceous plants belonging to this family, the *erecta* deserves mention. It grows three or four feet high, and has white, star-shaped flowers, appearing in August. *Clematis integrifolia*, with blue, bell-shaped flowers, is particularly desirable. The petals before expanding, form a round, balloon-shaped flower—afterward they suddenly burst open.

CHELONE. (*C. barbata*).—Sometimes sent out as a Mexican Penstemon, has glossy, dark green foliage, lying close to the earth, while it sends up tall spikes of orange-scarlet flowers, shaped like the scarlet trumpet honey-suckle. The stalks often rise four feet high. The blossoms continue from July to October. Said to be slightly tender, but it grows well north of Albany, N. Y., without any protection. It is a favorite plant wherever known.

COLUMBINE. (*Aquilegia*).—Who does not know all about the Columbine, and love its nodding blooms? But does every one know into how many colors and stripes and shades, the common sorts sometimes sport? In a bed specially devoted to them, not far from the writer's window, are plants with several shades of blue, from almost black to pale blue, then white, yellow, reddish-brown, variegated, single and double flowers. Whoever has not seen this plant in its best forms, let him inquire for *Aquilegia canadense*, with maroon colored, or scarlet, or straw-colored flowers. *Aquilegia glandulosa*, a new and superior sort, is smaller than the foregoing: its stems rise a foot high; the flowers are sky-blue. All sorts bloom in May and June.

BUTTER-CUP. (*Ranunculus*).—Our Butter-Cup has lost his place in the alphabet, but the plant is just as good here as anywhere. The double yellow sort is very common, and increases almost too fast. But the pure white ranunculus has no drawback whatever. Its flowers are as perfectly formed as the best mountain daisy, and are larger. We could wish this plant were better known.

DAY-LILY. (*Heimerocallis*).—Several sorts, but the blue and the white are best. The variety having its broad green leaves conspicuously striped with white, is very desirable.

DICENTRA.—No new comer has found favor more rapidly or more deservedly. It is singularly attractive in flower, foliage, and habit. The blossoms are borne on a drooping raceme, are of a beautiful rosy pink color, appear early in Spring, and remain for a long time. The plant grows about two feet high, is easily propagated by division of the roots, and asks only fair treatment to maintain perennial beauty. Whatever else is omitted, give a place to the Dicentra.

EVENING PRIMROSE. (*Oenothera*).—The only perennial Evening Primrose with which we are familiar is the *grandiflora*, which is very fine. Its flowers are canary-color, nearly as large as a hollyhock, and open in succession for a long time. It grows ten inches high, blooms in July and August.

FRAXINELLA. (*Dictamnus*).—There are two sorts, one with white, the other with reddish flowers. Plant is 18 inches high. The leaves, when rubbed, have a peculiar aromatic fragrance, somewhat resembling lemon-peel. When the plant is in flower, a gas passes off from it, which in warm, damp evenings, may be lighted with a match.

LARKSPUR. (*Delphinium*).—Here is a family of plants which deserves the attention of every body. Hardy and flourishing in any soil not positively bad, and easily propagated by dividing the roots. The flowers are borne on spikes rising from two to six feet high, are of every shade from dark purple to pale blue, and continue in bloom nearly all the season. Some of the darker varieties have a certain metallic or coppery luster that is very striking.

The old Bee Larkspur must be had "for auld lang syne." Higher than this rank the double Chinese and Barlow's. Better still, are Breck's No. 1, and the *formosum*. The last named has got a national reputation. It is quite dark, often curiously mottled, always large and showy. Breck's has a New-England fame, especially, but ought to be known everywhere. It is double, of a bright, lively sky-blue, the favorite of the ladies. Wrought into a bouquet with white pyrethrum, nothing can exceed it.

LYCHNIS.—There are many sorts, and all of them good. They vary in color from pink to vivid scarlet. The double scarlet is perhaps the finest. The old Ragged Robin, which belongs to this family, every body knows and loves in spite of his rags.

MONKSHOOD. (*Aconitum*).—Is an old-fashioned, but excellent plant. Most varieties have blue flowers, a few are white, yellow, and blue tipped with white. They throw up spikes of flowers, mostly two to three feet high. The popular name, monk's-hood comes from a fancied resemblance of the flowers to a monk's head-gear. This plant prefers a rather moist soil.

POPPY. (*Papaver*).—*P. bracteatum* is better than none, but *P. orientale* is better than all others put together. Set by the side of a white flowering shrub which blooms at the same time, the contrast of its brilliant scarlet is very effective.

PHLOX.—Of this family, so large and so excellent, we can only say that the beginner can hardly go amiss in procuring any of them. If you have room, begin by getting the creeping varieties, *stolonifera*, red, and *nivalis*, white, blooming early in May. Then, get an assortment of the medium-sized sorts, styled *suffruticosa*, which generally bloom in mid-summer. Respecting these, we can speak knowingly in favor of Abdul Medjid Khan, Esmerelda, Van Houtteii, and Imbricata. Get a collection of the later and taller sorts, called *decussata*, of which these are certainly good: Wilderrii, Mary Ann, Alba perfecta, Comtesse de Chamborde, and Triomphe de Twickel.

SNAP-DRAGON. (*Antirrhinum*).—A singular shaped flower, but very beautiful, sporting into various colors, scarlet, crimson, yellow, yellow and white, yellow and crimson, etc. It took its name from the fancied resemblance of its flower to the mouth of a frog or dragon, and from the fact that by applying the thumb and finger to the corolla, it opens and shuts as by a spring.

As it is an imperfect perennial—being apt to die out every second or third year—it needs to be reproduced from seeds or cuttings. And as it "sports" when raised from seeds, the only way to preserve finely marked specimens is to propagate them from layers or cuttings.

SPITRÆA.—A large and worthy family, so large that we shall not undertake to call the roll. One can hardly go amiss here, but do not fail of *filipendula plena*, the flowers of which are worthy of a place in the bride's hair. *S. Japonica*, is very fine, and *ulmaria pleno*, is not inferior.

But we have not room for further descriptions. Now, does some lady-gardener, who has only a small border to plant, ask us to name a dozen of the best, out of our list? Take the following: Dicentra; variegated Snap-Dragon; Aquilegia glandulosa; Chelone barbata; Breck's, the Double Chinese, and Formosum Larkspurs; Scarlet Lobelia; Phloxes, Van Houtteii, Alba perfecta, and Triomphe de Twickel; White Ranunculus; Sweet-scented Violet.

A Hint in Grape Culture.

It is a well known fact, that vines trained according to the renewal method, sometimes become stunted, and make only a feeble and irregular growth. This is owing, some vineyardists say, to the fact that as the base or horizontal canes become old, their ducts become clogged, and retard the free and healthy circulation of sap from the root and trunk through the canes.

A grape-grower, at the West, having a few vines in this condition, tried an experiment upon them. He brought down the horizontal canes to the ground, at several points, fastened them there by stout pegs, and covered them with a few inches of soil. Roots were soon formed at each of these points, and the perpendicular canes above them grew with new and amazing vigor. He was so well pleased with the working of his plan, that he means to repeat it whenever a vine appears to need doctoring.

This practice is not altogether new. In cold graperies and in vineyards, it has long been customary to renew vines by layering a shoot, and then cutting off and digging up the old stock. The principle seems to be that the vine continually needs to make new roots and new canes, and to have a free circulation of sap from the root to the top. For the vine to stand still, is to sicken and die.

Gardens for Health.

On every side, we hear it said that American merchants, lawyers and mechanics are annually growing feebler, and becoming shorter lived, and all for lack of cheerful exercise in the open air. This fact becoming widely known, has led to the establishment of gymnasiums, boat-clubs, ball-clubs, etc., all over the country. For persons who can not get muscular exercise in any other way, this is all very well. But he who can get control of ground enough for a garden, will be much better off, and especially, if he own the garden. This pleasing occupation is far more healthful than wrenching gymnastics practiced by the clock, or the highly exciting and overtaxing exertions of boat-racing, and ball-playing. Morning and evening spent at home—pruning and hoeing and weeding and training—so employed, how can one help being happy and healthy? It would be an evil day for a man so situated, to hire a gardener to do all his work. What harm is there in a little sweat, a little dirt, and a few blisters, if thereby one keeps dyspepsia and ill health generally, at a distance?

Open your heart to sympathy, but close it to despondency. The flower which opens to receive the dew, shuts against rain.

An Impromptu Flower Garden.

Many a person in our cities and towns, would like to have a flower garden if he could buy one ready made, or could produce one instantaneously by the mere wave of his hand. For such persons we shall not now attempt to provide. Then, there are others, very fond of flowers, who yet imagine that it requires several years and a good deal of money to create a garden; and they therefore shrink from the undertaking. For such persons we feel sympathy, and wish now to speak a few comforting words.

It will, indeed, require several years to establish a garden, complete in all its appointments—its soil brought into perfect tilth, and its plants, shrubs, and vines into large and vigorous growth. This must be so, from the necessities of the case. But something, yes, much can be done in a single year. Let us see:

Suppose you have a piece of ground thirty or forty feet square. It is now in grass. If you can not break it up yourself, put one or more stout Irishmen into it, and let them spade it up thoroughly, and clean out all weeds, grass, and stones. Spread two or three inches thick of old manure over the surface, and work it in. And if you have a few loads of sand and leaf-mold from the woods, that may well go in. Rake the ground perfectly smooth.

Perhaps you are a rectangular person, and would like to make your garden beds into squares, triangles, parallelograms, etc. If so, the work is easily done. Perhaps you prefer curved and flowing lines, something after the style of the sketch in the opposite column. The shape is not very important; but, that our talk may go on, we will suppose that you adopt this one as your pattern. Get a dozen or two short stakes, and lay off your beds. Allow three or four feet width for the walks, and from four to six feet for your beds, just as your space will permit. Work your beds into the required shape, throwing the surface soil of the walks upon the beds. The graveling of the walks and the bordering of the beds with box, grass, tiles, or some other simple edging, may be done now or afterwards, as you please.

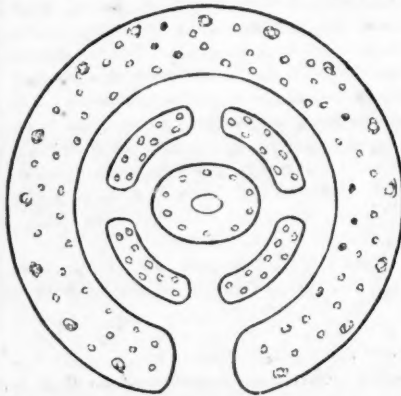
How shall the beds be planted? A great number of methods suggest themselves, but we will propose a very simple one: In the middle of the oval bed in the center, sow a circle of Morning Glory seeds, using those of various colors and shades. Set up a cedar pole in the center, eight feet high, and when the vines appear, train them on stout strings to the top of the pole. The remainder of this bed may be devoted to verbenas. In setting out these, you will, of course, take pains to arrange the colors so as to harmonize well. Set them eighteen inches or two feet apart, and by mid-summer they will cover the entire bed.

The four beds next around the oval, may be planted in either of two ways. Each bed may be devoted to one kind of flowers and of one color alone, or it may have a mixed assemblage of sorts and colors. For example: one might be given up to scarlet or crimson Petunias, another to white Candytuft, another to Drummond Phlox, another to Portulacas; or these might be planted indiscriminately, and others added to them, such as Asters, Marigolds, Scabious, Coreopsis, Balsams, Sweet Williams, etc. The first is more indicative of art, and is very striking; the last is more natural, and affords a greater variety of flowers.

The large, outer bed should be planted with some reference to the future, as well as the pres-

ent. On the back side, tall shrubs may be set, also roses, and flowering vines. So arranged, they will not obstruct one's view of the plants in the front of the bed: they will also serve to protect the whole plot from severe winds and from outside intrusion. In the April *Agriculturist*, page 114, we gave a list of good shrubs, from which selections might be made for this border. Next before these shrubs, we would set Dahlias and Gladioli. The foliage of shrubs and vines behind would set off the brilliant colors of these flowers with fine effect. The splendid autumnal show made by the Dahlia is well known, but it hardly eclipses the vivid beauty of the newer Gladioli. Unfortunately, these last are as yet scarce and expensive, but the older sorts, (*gandensis*, *floribunda*, etc.) are cheap and very fine.

Next before these, but at intervals of five or six feet, we would set out choice biennial and perennial herbaceous plants. On page 146 will be found a list and brief description of several of these plants. "But where are we to



get all these fine things?" you ask. We reply, you are very unfortunate if you have not won the friendship of several gardening neighbors who would gladly supply you with many of the seeds, shrubs, and plants we have referred to. You may pay them something for these articles, if you please, but they would doubtless feel better compensated if you would only appreciate their gifts enough to take good care of them. But whatever you cannot get from such friends, you can buy at the seed stores and nurseries. The buying will not beggar you. If necessary, deny yourself those Havanas in which you too often indulge; give up that second cup of strong old Java which shatters your nerves; wear that same old hat or coat a few months longer before getting new ones; or in some other ways, economize a little, and the garden will not lighten your purse a single grain, but it will lighten your heart and your eye very much.

But we had not quite finished that outer border. Set out a few biennial and perennial plants this year, leaving room for others to be added at a future time. Between these, set out annual flowers of the taller kind, such as Larkspur, Salpiglossis, Scabious, Marigold, Asters, etc. In front, along the inside margin of the bed, set the lower growing annuals, such as purple and white Candytuft, Portulacas of various colors, Drummond Phlox, Alyssum, India Pink, Clarkia, dwarf Convolvulus, Gilia tricolor, Mignonette, Nemophila, etc. These, well managed, will give an air of finish to the whole garden.

From the foregoing, it appears that one can get up an extemporaneous flower garden which will afford a good deal of enjoyment the first year. Of course, it will improve every subse-

quent season. To make such a garden requires zeal, and resolution, and work, but not a great deal of money. Whoever has land enough at control, can have such a garden as we have described, and a better one, if he only tries. But if he is satisfied with our general plan, and will follow it out for this Summer, we promise, (if he read the *Agriculturist* faithfully,) to give him many new hints during the year for the further embellishment of his garden next season.

Perfecting the Lawn.

The lawn is supposed to be already made: it was made last year, or several years ago. But it was finished in some haste, without full and clear knowledge of the best mode of doing the work, or of what constituted perfection in a lawn. In some places, the soil is thin and poor, and the grasses have succumbed to the hardier weeds and mosses. Tufts of coarse orchard grass and of red clover protrude here and there. In many places, the grading of the surface is imperfect, leaving abrupt elevations here, and depressions there. Dock and thistles and plantain have in some places usurped the room of the fine lawn grass and white clover.

Then, there are too many flower beds cut out in the grass. A few, at intervals along the margins of the walks might answer, but ten or a dozen in a small lawn, break it up and destroy its breadth. And then, it requires much work to keep so many beds in perfect order; and nothing less than absolute neatness can be allowed on a conspicuous lawn. Furthermore; there are too many shrubs and trees in the middle portion. The walks and carriage roads were thoroughly made, but the margins have not been nicely rounded and kept trim, as first laid out. The grading of the soil near the walks was not as well done as it might have been.

Now, we are going to begin this month by putting these things right. Those spots with meager soils must be well scarified with an iron rake; some fresh grass seed must be scattered over them, and the whole enriched with a dress-



Fig. 1.

ing of old manure. Those tufts of coarse grass and those weeds must be dug out, one by one, and—what is very important—those inequalities of the surface must be carefully remedied. To do this, the sods must be taken off both from the high and the low points. The soil must be removed from the first and spread over the last, bringing both to a perfect level with the rest of the lawn, and then the sods replaced. A day or two of labor, as may be necessary, in doing this work, will do more than any other one thing towards perfecting a lawn.

As to some of the numerous flower-beds, we will remove the plants to a less conspicuous place, and cover the patches with sods. But here, a hint or two must not be forgotten. The soil of the flower beds being quite rich, will give the turf a more rampant growth than the rest of



Fig. 2.

the lawn; therefore, let the top spit be removed, and poorer soil returned; then lay on the sods. And in choosing sods, be careful to get such as contain grasses similar to those of the lawn; else the patch-work will be unpleasantly conspicuous all Summer. Those trees and shrubs

which give the lawn a crowded appearance, may, some of them, be removed to the boundaries of the premises, or worked into groups.

Now, let us take a sharp look at our walks and roads. As originally laid out, the curves were excellent, but in some places the frost or accident has defaced the margins, and through



Fig. 3.

neglect, the grass has crept out into the gravel. These things must be rectified. The original curves must be restored by cutting out the margins neatly, re-sodding the banks where broken, and scraping the walks as clean as when first made. Here is a walk which has never been properly filled up with gravel: it has too much of a ditch-look about it, Fig. 1. It must be filled with gravel, until it presents something like the appearance shown at Fig. 2.

In the grading of the borders of walks and carriage ways, much skill and taste can be shown.



Fig. 4.

On perfectly level ground, the slope should be very slight, as in Fig. 2, with a depression at the edges of the walk of two or three inches, just enough to carry off the water from the middle of the walk. Where there is a ridge of earth near the walk, it may be graded down with a long slope, like Fig. 3, or Fig. 4. Where the walk runs through a low and damp soil, it may be raised a few inches above the surrounding soil, and the surface graded up to it, like Fig. 5.



Fig. 5.

The turf used for finishing off all these margins should be of the best kind. It should be laid by an experienced hand, and rammed down hard and smooth. The above work having been done, the whole lawn should be rolled with a heavy roller. And if it be rolled and mowed every ten days through the Summer, the labor to perfect the lawn will obviously be not in vain.

Managing Strawberries.

We now refer to only one point, viz.: whether they succeed best when kept in hills, or when allowed to cover the entire bed. In favor of the latter method, it is argued that the vines being spread over the entire surface, the foliage acts as a mulch in Summer, and a protection in Winter, thus saving the necessity of using tan-bark, sawdust, straw, or other covering. By this mode, too, it is thought the fruit is kept cleaner, and is more abundant, even if it be not so large. Then, also, and most potential of all reasons, this method saves trouble!

On the other side, it is held that to mulch a bed with growing plants, defeats its own end, for they absorb more moisture from the ground through their roots, than they preserve in the shade of their leaves. This is like keeping a cistern full of water by the shade of the pump, while the pump-handle is kept continually at work! As to the quality of the fruit; certainly it is worth some trouble to raise large, fine-looking berries. And even as to quantity, it is not

so certain that the massing system has the advantage. The forces of the vine are so much expended in making runners, that few fruit stems are formed. When the runners are clipped off, new stools or clusters of fruit-stems are produced around the collar of the mother plant, which bear very abundantly. On vines so managed, we have often counted twenty or more fruit-stems, with an average of ten berries on each, and they of magnificent size. Two hundred berries to a single plant, is about enough for mortal man to ask for! We doubt whether in the helter-skelter system, a larger bulk of fruit is raised on ground of the same extent. Let the reader make careful experiments this season, and make a note of them.

Impure Squash Seeds.

From all parts of the country, we hear complaints of impure seeds of the best squashes. The famous Hubbard turns out a failure, with one man; the Honolulu is little better than a half-ripe pumpkin, with another; the Boston Marrow is a cross between many sorts, with a third. This is a great annoyance. These several squashes have their distinctive excellences, and it is very desirable to keep them separate.

One way to preserve the different sorts from mixing, is to plant only one kind in a garden, and the spot should be a hundred feet or more from all other gardens. Even then, the bees will be likely to carry pollen from one to the other; a strong wind may do the same.

The only way to secure absolute purity, is, first being sure of good seed, to cover several flowers of the kind wanted, with a bell-glass, or with a bag of millinet, or in some other way prevent bees and other insects from alighting upon the blossoms. Keep them covered until the fruit is set; to secure impregnation, dust a little pollen on the center, with a camel's hair brush, from a barren bloom of the same vine. After the fruit sets, no harm can come to them.

And what is thus true of squashes, is true likewise of melons, and pumpkins. They will mix, if not protected, and if they mix, they deteriorate.

How to Transplant.

Those who have provided early plants of cabbages, tomatoes, etc., in hot-beds, cold frames, or boxes of earth, will of course transfer them to the garden or field as soon as the soil and weather will permit. A little care will save an immense loss. Before lifting the plants, it is important to thoroughly soak the ground in which they are growing. Let this be done several hours before transplanting. The greater the amount of soil that can be made to adhere to the roots in taking up, the better. Take them up only as fast as they can be set out; two hours exposure to sun or wind is often a loss of some days in the growth, if not a total loss of the plants. "No pains, no gains" here.

Most persons prefer setting at evening, and when the ground is wet by rain. We prefer a dry soil, so that it will not be packed by tramping. When the hole is made, have a pint or more of water poured in. Before the water all soaks away, the plant is set in and the hole filled up with dry earth. Most of this is wet by the water, so that the plant is surrounded with moisture, and yet the surface is left loose, and open—not packed or baked. We are certain that the trouble required is abundantly repaid, whether the number of plants be large or small. What will pay in a garden, will pay in a field.

Most cultivators, however, take up the plants, thrust them into a hole, and let them do the best they can. When this is done, the ground should be wet by rain or artificially. An implement, called a *dibble*, shown in the annexed cut, is convenient. It is made of wood—a large one is best. A simple straight pointed stick will answer. One with a handle, like our engraving, is more convenient. It may be made from an old shovel handle.



Hints on Sowing Garden Seeds.

Nature covers lightly. She scatters seed from the ripened stalk, for rains to wash into the earth, or the falling leaves to cover. The gardener often plants too deeply. Seeds which push up a large head, as squashes or Lima beans, and others with a feeble stem, like onions, parsneps, etc., can not well force their way through several inches of stiff soil, packed down by heavy rains. A covering one half inch deep is sufficient for most seeds—less than that will answer for many.

In covering, see that lumps of dirt or small stones do not take the place of fine earth. This often happens when the seed is covered by raking the drills *lengthwise*; a better way is, to pass the *back* of the rake crosswise over the drills. The old fashion of cutting up the garden into beds four to six feet wide, thus wasting a large portion of the ground in useless paths, is now nearly out of date, and very properly. A few long rows of beets, carrots, onions, etc., across the garden, are more easily worked than beds of short rows.

THE HOUSEHOLD.

Blinks from a Lantern... XXVII.



VISITS A CONTENTED FARMER'S WIFE.

I am getting to admire the moderns very much, especially the women. I find in my journeyings, that there is almost as much diversity of character among them, as with the men. This was impossible in my day, even among the Greeks, with whom literature and the fine arts were carried to the highest degree of perfection. But letters and philosophy were not for the Greek woman. She was a drudge, in the field and in the kitchen, and the same unvarying round of duties made, every where, a similar type of character. Xantippe scolded her husband, but it was only the fame of her husband that made her conspicuous. The women were all scolds and croakers in my day, and if the husbands were not universally the objects of their petty malignity, it was because all husbands had not the meekness and good temper of Socrates. The sex had then, as now, an eye to personal safety.

But Mrs. Grimes, (mentioned in the April *Agriculturist*), is by no means the type of the mod-

ern woman. She is only one of a class, numerous perhaps, but not in the majority. The blinks of my lantern have fallen upon scenes of quiet contentment, happily wedded people, cheerful domestic circles, which, had they been more common when I dwelt in the flesh, would have materially improved my temper and my destiny.

Mrs. Content Rogers was a sunny sort of a body as any one could see, by a glance at her front yard and windows. There was a honeysuckle trained upon each side of the door, a flower border running the whole length of the house, where the crocuses and snow-drops hailed the first genial days of Spring, and jonquills, pinks, violets, lilies, roses, and asters lavished their blossoms all Summer long. The fence was picketed and painted white, indicative of the tidy housewife and the clean consciences within. The windows had green blinds, but they were kept joyously opened, as if the sun and friends were both heartily welcome to the best room, where Content Rogers was the presiding genius. I have sometimes thought that these strongly marked traits of character run in the blood, and that a croaker or a jolly woman was quite as much indebted to her constitution, as to her training, for her peculiar development. Certain it is, that this woman came rightfully by her characteristic hopefulness and contentment. Her maiden name was Goodenough, her father was called Waitstill, and her mother Hope. The last child, (the twelfth by the way,) was named Content, as filling the measure of their happiness. Patience, Faith, Hope, Charity, and Temperance were cherished female names in the family, that had been handed down for many generations. By a sort of manifest destiny, which seems to be as strongly believed in by the moderns as by the ancients, she had married Constant Rogers, and settled in this neat white farm house.

Content took me for a belated beggar, as I called quite early at the door. "Poor old man, you look tired and hungry," said she, "come in and breakfast, we are just at the table."

I found Constant Rogers at the morning meal, with a goodly row of children upon each side of the table, of all ages, from two to twenty. He had been expecting me, but not quite so early in the day. The whole group was orderly, for the family was so much given to hospitality, that an unexpected guest was no novelty in the household.

"Pray how do you manage," said I, "to support so large a family by farming? They say it is a very poor business."

"Well, my wife can tell you more about that, than I can. I keep the farm going out of doors, and she keeps the family going in-doors. I never find any difficulty in keeping the grain bins and meal chest well filled, and the larder well stored, and somehow there has always been enough to eat and drink, three times a day, ever since we began housekeeping, and that is twenty two years ago this Spring."

"But who says that farming is a poor business?" asked Content with a surprised look, as if she had never taken that view of it.

"Why one of your townswomen by the name of Grimes," said I.

"Oh yes, I have seen her; she lives up in the other parish, and I haven't much acquaintance with her. But I thought the Grimeses were rich and happy. They are sending their sons to College, and their daughters go away to school. Perhaps they feel a little above their business, which always makes things go hard."

"But don't you find it hard to feed so many mouths, and to keep so many children looking tidy?" I asked.

"Well, I am *busy* most of the time," said Content, smiling, "but I never thought it *hard*. I do not know what we are to live for, if it be not to make others comfortable and happy. I have always found so many things to be thankful for, that I never have found time to fret at the little worries of life. We named our first child Thankful, and somehow a blessing has seemed to follow us ever since. We have not had to wait till Fall for a thanksgiving, for we have had one about every month in the year. Before I got over feeling glad for one thing, I always noticed that another came. When the children were sick, I always felt bad, but they were never sick long, and when they got to running round again, I forgot the past. They made us a good deal of care when they were small, but they save us a great many steps already, and will save us a great many more, as we need their services. It is a great comfort, sir, to have good children, and ours are the best in the world."

"But does farming *pay*?" I inquired.

"That depends upon what you mean by *paying*," she continued. "It pays us abundantly. We are happy in our work, and have no longing for the pleasures which others enjoy. If a man is only contented, I suppose it makes very little difference whether he have a thousand or a million of dollars. We have a snug, comfortable house, all paid for, and our worldly substance is increasing every year—I suppose we enjoy it as much as a king enjoys his palace and kingdom. We are able to have a good variety of books and papers for ourselves and the children to read, so that we are learning something every day. I suppose we enjoy them quite as much as if we had nothing else to do but to read them. Our children are in a fair way to make useful men and women. The children of the richest men will not make anything more, and many of them will fail of this."

"If our business makes us happy, we think it pays us quite as well as any business that does not make those happy who follow it, even though it gives them more money. But farming pays well enough in money, i. e., in worldly comfort. Our means grow with our wants, and what can any reasonable being ask more? The farm has grown larger, the soil deeper and richer, the cattle have increased, and grown sleek and handsome, the pile of milk pans is higher and brighter, father says, since Thankful was old enough to scour them. The garden is full of fruits and vegetables, and the grain bins are never empty."

I left, fully persuaded that Content Rogers had found the philosopher's stone, if I had not found a farmer's wife.

Troublesome House Insects.

As warm weather comes on, innumerable insects will wake from their winter nap, or emerge from the larva state, to enjoy their life at the expense of our comfort. The buzz of the fly will be answered by the tiny horn of the mosquito, the flea will skip nimbly over the floor, and the moth and chinch will stealthily hide in the carpet or the bedstead. Scrupulous cleanliness will thwart most of them. Flies are nature's scavengers, ever ready to convert putrefying matter into innocuous substances. Keep the yard free from decaying vegetables, refuse from the kitchen, and the drain of the

sink, and sweeten the out-buildings with lime, and they will mostly emigrate to more promising quarters. The few stragglers which remain, can be nearly excluded by frames covered with millinet, placed in the windows when open. These will also keep out the vexatious mosquito. Myriads of these latter insects are often bred in swampy spots adjoining the dwelling. Proper draining will rout them at head quarters. The rain water cistern is also prolific in mosquitoes: place a few lively minnows or other brook fish there, and they will fatten on the larvae of the tormenting insect—thus the biter will be bitten.

The flea delights in the dust and litter of the wood house, and the wagon shed. Remove all this, sprinkle fresh lime in its place, and white-wash the beams and boards, and the fleas will soon vanish.

Take up all the carpets, beat them thoroughly with a slender rod, and scatter a little black pepper around the sides of the room where the edges of the carpet are to be laid. Then, once a fortnight, whip the outside breadths upon the floor with a light switch, and the remaining moths will be beaten out.

The chinch or bed bug can be routed, by first washing all the parts of the bedstead with cold water, and then, with a brush, applying corrosive sublimate dissolved in spirits, or an amalgam of lard and quicksilver rubbed together. Or ask your druggist for sixpence worth of unguentum, mix it with lamp oil, and apply it with a brush to all joints and crevices, and the bugs will sleep and allow you to do the same.

For the American Agriculturist.

My Fresh Water Aquarium.

[The following details of experience by Mr. West, one of the editors of the Commercial Advertiser, of this City, will furnish many useful hints, and we thank the writer for his interesting account. This subject will be found discussed at length, with several illustrations, in Volume XVII, (Nov. No.), pages 256, 257.—Ed.]

About four years ago I commenced keeping a fresh water Aquarium. To this day it is to me an unfailing source of amusement and instruction. I began, as any reader of the *American Agriculturist* may begin, with an ordinary gold-fish globe, making at the bottom a bed of pebbles and coarse sand, first well washed. In this I set aquatic plants, then filled the globe with pure water to within about eight inches of the top, and allowed it to stand for four days in a moderate light. By that time the continuous ascent, at midday, of minute globules of air, (gas,) told me that the plants were performing their important and necessary function, that of supplying the oxygen required to keep the water pure, and to sustain animal life. I then put in my animals, committing the error, however, which nearly every one makes when first undertaking the management of an aquarium—I *overstocked it with animals*. When this error is avoided, there is really no difficulty in keeping the animals alive and healthy, and the water perfectly clear and living. But the temptation to err is strong, and the error is always fatal to success. For an ordinary gold fish globe, well supplied with plants, three or four small fish, a couple of newts, and a few specimens of the lower orders of animal life, are all that can be *overlooked in health*. The globe must not be placed where the sun's rays will fall upon it, as it acts as a lens, soon heating the water to a high temperature. My experiment was so successful, that I soon manufactured a fair sized tank. These can now be bought so cheap, and so much

more perfect and elegant than any a novice can construct, that I need not relate my experience.

I have now had, for a couple of years, a fresh water aquarium capable of holding about twenty gallons. The sides are of thick plate glass, the bottom and ends of slate. I prefer this for a fresh water tank, as a fine green velvet-like moss forms on the inside of the slate ends, which is exceedingly beautiful, and with that formed upon the rocks and pebbles, supplies a considerable quantity of oxygen. The water has remained perfectly clear for six months without changing or renewing, and was then renewed only because I desired to change the location of the tank. It has contained for months, all in perfect health, about sixty animals, including dace, sticklebacks, rockfish, minnows, gold and silver fish (small sunfish,) also small catfish, suckers, eels, crayfish, fresh water muskels, tritons, tadpoles, caddis worms, a turtle, snails, beetles, etc. In the center is a small pile of rocks, the topmost having a broad surface and rising above the water, for the convenience of the turtle, tritons and crayfish, which prefer occasionally to leave the water and lie for awhile upon the rock. Under my daily observation, tadpoles have undergone their various changes, until as perfect frogs they have first squatted awhile upon the rock, then leaped over the side of the tank and taken French leave of their long-time jailer. I have watched the triton shed his skin and eat it, and the female tie up her eggs in a knot of leaves of plants; the dace and minnow clear themselves of parasites by rolling in the sand, and the gold fish amuse himself by drawing in a mouthful and meditatively ejecting it as a "human" the smoke of his cigar; I have seen the caddis worm encase himself in his curious tube of variegated leaves, but though I have watched him closely, I never could find out how he cut the pieces so neatly, and joined them so securely; the crayfish has dug a cave for himself, lifting pebbles much heavier than his own body, and built with them a wall around the mouth of his den, and I have observed other curious facts in natural history, which I had never known but for my aquarium.

The habits of aquatic plants are scarcely less curious than those of aquatic animals. But upon this I may not dwell. The most useful and beautiful plants for an aquarium, among those easily procured, are the common pond weed, (*potamogeton*), hornwort, (*zannichellia*), and starwort, (*callitriche*). *Vallisneria* (eel-grass), is excellent for the purpose, but can be obtained only in certain localities. I have never found pond lilies to thrive well in the tank, and if they did, I suspect they would be ornamental rather than useful. Probably they might grow if a bed of earth were used, but that is unnecessary for all other aquatic plants, and it always endangers the clearness of the water. When green matter forms upon the glass, it should be rubbed off daily or every second day, with a piece of muslin or sponge on the end of a stick. If left too long, it hardens beyond easy removal. I have propagated hornwort in the tank, leaving the seeds floating there all Winter. Any aquatic plant will answer; those growing in comparatively still water and entirely submerged, generally thrive best. If the water is never disturbed, the moss will grow naturally upon the rocks and pebbles and become a substitute for, or a powerful aid to the plants. R. A. West.
Staten Island, N. Y.

To HOOP A FIRKIN, pail, tub or barrel, when no iron bands or wooden hoops are conve-

nient, pass an iron wire twice around and twist the ends to make them hold. It may be driven or tightened like an ordinary hoop. We have often found it quite convenient.

For the American Agriculturist.

How to Cook Pork.

BY MRS. E. F. HASKELL.

I once thought there was no art in cooking pork, as it made little difference how it was prepared—pork being pork, and nothing more; but this I have found a great error. For a long time I cut pork too thick, parboiled it several minutes, and cooked it quickly over a hot fire. I have learned that it is better to cut it as thin as possible, and gash the rind fine. If to be fried, let it steep in clean soft water, milk warm, for some time. If fresh soft water can not be had, use "hard" water, with a little soda dissolved in it, and just before frying the meat, heat it to boiling heat. If to broil, either steep the slices a long time, or, what is better, dip it several times while broiling in warm water. Pork needs rather slow frying, or broiling. If the fire be too strong, it curls the slices immediately, and they cook unequally. After the pork is nicely fried, set it in the stove oven to keep warm, while the gravy is being prepared as follows:

First pour out all the fat, wash the spider free from sediment, and put in it the milk wanted for the gravy. When this is boiling, add a little flour stirred in cold milk, say a teaspoonful to a pint of milk, and salt to suit the taste. After the flour is stirred in, add spoonful by spoonful, as much pork fat as will unite with the milk, without rising to the surface; if it stands on the top, it is too rich. When finished, the gravy should be as thick as good morning's cream. When cream is used, no flour is needed, and but very little of the fat. For an excellent addition, toast stale bread, dip it in the gravy, lay on each slice a bit of pork, and pour the gravy over it; it is very nice with baked potatoes. Sometimes we make a batter, and when pork is well fried dip it, and fry quickly.

Plain fried pork may also be varied by dipping it after being thoroughly cooked, in flour, and browning. Sometimes we chop the pork, and stir eggs with it after it is quite fried, in this case most of the fat should be poured off before adding the eggs.

Pork Hash is made thus: Boil salt pork until tender. When cold chop it fine, and mix five parts cold chopped potatoes with one of pork, and season to the taste. Grease the spider with pork fat, and fry brown, or make it in thin, flat pats, or cakes, and brown them on the griddle.

Apples fried brown in fat after the pork is cooked moderately, are good. Tart apples are the best; sweet are tasteless, and sour ones cook so quickly as to become a mash. Do not peel the apples but remove the cores with a round piece of tin formed into a tube, before cutting them. We are particular to have the slices round, so as to be held together by the peel. With this dish, fried potatoes are almost essential. Thus one may manage to vary the bill of fare considerably with only the pork barrel to market from.

Puff Omelet.

Contributed to the *American Agriculturist*, by Mrs. E. F. Haskell. This is very superior, as well as beautiful. Beat the yolks of six eggs light, and mix them in a small teacup of milk; add a little salt. Beat together a tablespoonful

of sweet butter, with the same quantity of flour, until smooth; add the mixture to the custard, and beat the whole well together. Pour it into a buttered omelet, or a small frying pan, and when it appears to thicken, pour over it the whites, beaten stiff; dust over it a *trifle* of salt, and when the whole is stiff, remove it carefully to the dish, without breaking.

Steamed Eggs.

Butter a plate and break the eggs upon it and season with butter, salt, and pepper. Place them in a steamer, and cook a longer or shorter time according to individual taste. This is a good dish for an invalid, if not cooked too hard.

Apple Pie Dumping.

Contributed to the *American Agriculturist*, by "Louise," Lucerne Co., Pa.—Take a large teacupful of sweet cream, and one of sour; with half a teaspoonful of saleratus. Stir in flour sufficient for a very thick batter, much thicker than for cakes. Pare and slice tart apples. Spread the batter to the thickness of half an inch, in a common pie plate. Now put in the apples and cover them entirely with the batter. Bake until light and brown. Serve with cream and sugar, butter and sugar, or any sauce preferred. The writer thinks them better, and they are certainly more easily made than the old-fashioned lead coated, boiled dumplings.

Palatable Castor Oil.

Mrs. P. J. B., writes that the nauseous taste of castor oil may be removed by boiling it with twice the quantity of milk, and sweetening it with sugar. It is to be given when cool.

Hiring a Girl.

Some, at least, of our housekeeping readers will enjoy the following, which we find in the Hartford Homestead: A lady who wished to hire a "maid of all work," was called into the parlor to see an applicant.

Biddy, (seated on the sofa.)—"I hear yez want a girl."

Lady.—"Yes."

Biddy.—"Have yez hot and cold wather carried convaniently all over the house?"

Lady, (still standing).—"Yes."

Biddy.—"Is there gas in the kitchen?"

Lady.—"Yes."

Biddy.—"Carpets on the girl's room?"

Lady.—"Yes."

Biddy.—"Do you have a man to make the fires, and black shoes?"

Lady.—"No. The girl makes her own fires."

Biddy.—"That's too bad. But I likes yez and yer house other ways, and the kitchen looks convanient, so I think I'll come. I'll be expecting \$9 a month, as I niver works for less."

Lady.—"But I want to ask you one question. Can you play on the piano?"

Biddy.—"Shure, no mam."

Lady.—"Then I'm sure you will not do for me."

A Washing Table.

O. Brooks, Lee Co., Iowa, advises to lay aside the old "wash bench" made of a slab with rough legs, and as a substitute make a table, (black walnut is best,) about 20 inches wide, 3 feet 8 inches or 4 feet long, high to suit the washer, and put castors on the legs. This can, with ease, be rolled to and from the boiler, and to the sink, where the tub can be tipped over, thereby avoiding much hard lifting, upon weary washing day.



"HAPPY AS A KING."—FROM A PAINTING BY WALTER GOODALL.
(Engraved for the American Agriculturist.)

The Editor with his Young Readers.

Happy as a King.

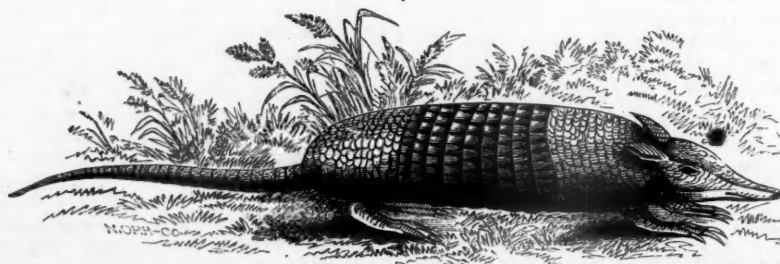
Ah! little lads and lasses, kings and queens in their coaches might well envy you the happiness of your glorious ride on the old farm gate. All the splendid carriages, and prancing horses with gilt harness, the richly clad servants, the brilliant uniforms of soldiers, the jewels, and other magnificent show which kings possess, what are these compared with the glorious woods, the waving grass, the beautiful flowers, the bright blue sky, and the joys of youth?—Do our young readers remember what the Great Teacher said about Solomon in all his glory? A single lily of the field is decked with greater splendor than the richest king could boast. But even if one could dress himself as finely as the choicest flower, that alone could not make him happy. The little son of the Emperor Napoleon was one day observed to leave all his costly playthings and stand by the window, thoughtful and sad. Some one asked him "Why are you unhappy, what are you thinking of?" "Oh!" he replied, "if you will only take all my playthings, and let me run out and play with the boys there, I shall be so happy." The children he envied were busy around a puddle, making dirt pies! while he must be kept like a bird in a gilt cage, because he was son of the Emperor. So you perceive that something more than what money can buy, is needed to give pleasure.—Happiness depends more on what is in us, than on what is around us. Health, activity, a quiet conscience, and contentment with one's lot, will bring joy in almost any place. The children in the picture are not rich, as you can see by their tattered clothing and bare feet, but they are full of life, they have no anxiety for the future, and it is a pleasure to look at them. Even the little one who has caught a fall, is too happy to mind it, and the very dog enters into the spirit of the frolic. The old gate is strong and able to bear them, and they do not appear like children who are doing a forbidden act, by swinging upon it. That would spoil all their enjoyment. We think the artist might well change the title of the picture, so as to read, "Happier than any King."

"I Didn't Think."

So said George, when his father reproved him for neglect. He had been sent to drive the cows to a new pasture. The field next to the pasture was planted with corn, and George's father had given him particular directions to see that the bars were put up between the two fields, so that the cattle could not pass through and destroy the corn. But

on his way there he was thinking more of frolicking with his dog, than of doing his errand, and just as he had turned the cows into the lot, a red squirrel came running along the fence, and away went the boy and dog, in pursuit. They had quite an exciting race to an adjoining wood, where the squirrel sprang up into a tall hemlock tree, and was soon out of sight. By this time George had forgotten all about putting up the bars; and having nothing else to do, he went down to the brook that ran through the woods and played for an hour or more before returning home. He had been there but a short time when a neighbor, who had just passed the cornfield, came in to say that the cows were there doing much damage. Then George started and ran as quickly as possible to drive them out, but they had already destroyed more corn than he could have paid for by working a month. When his father reprimanded him severely, he replied "I didn't think."

His father perceived that George endeavored to excuse himself on the plea of a poor memory, and resolved to teach him the lesson, that it was his duty to think—particularly when entrusted with a



charge. The next day he visited the city, and George, who had long had the promise of a gun with which to shoot crows and squirrels from the cornfield, begged him to get it then. On his return at night, George's first question was, "Have you bought the gun, father?" "Oh, I don't think," was the reply. Poor George was greatly disappointed, but his father had said the words in such a way, that he saw what was meant, and he felt the reproof keenly, for he knew he deserved it. The following morning, he went to his father, when he was alone, and said softly, "Father, I will think, hereafter," "I trust you will," was the reply—"but since you have learned the lesson I intended, I will now finish what I commenced saying last night. I broke off in the middle of the sentence, to set you to thinking. The whole answer to your question whether I bought the gun, is, I didn't think best to give it

to you, until you could give better heed to your duty; you will find the gun in my bed-room." George used often to say afterward, that every time he fired the gun, it seemed to say to him, "Think."

Speak Gently.

A loud boisterous tone shows a want of good breeding. The first principle of politeness is to make those about you feel pleasant, and a rude coarse manner of speaking is annoying to most persons. A good anecdote is related of a man, who went by the name of "Whispering John," which was given to him in ridicule. People said he talked as though he were brought up in a mill. One cold morning he walked into a public house, and called out in his usual thundering voice:

"Good morning, landlord, how are you?"

"Very well, how do you do?"

"Oh, I'm well, but I'm so cold, I can hardly talk."

Just then a nervous traveler who was present, ran up to the landlord, exclaiming: "Please have my horse brought as soon as possible."

"Why, what is the matter?" asked the landlord.

"Nothing," replied the traveler, "only I want to get away before that man talks."

An amusing Dog Lawsuit.

Our young readers have probably all heard of the famous lawsuit about the cracked kettle, in which the defendant's lawyer claimed: 1. That his client never had the kettle. 2. That it was cracked when he borrowed it; and 3. That it was whole when he returned it. The Ladies' Repository gives a still stronger case: A fat old gentleman was bitten in the calf of his leg by a dog. He rushed to a Justice of the Peace, and sued a man whom he supposed to be the owner of the offending cur. The defendant, who was somewhat of a wag, offered the following defence: 1. By testimony in favor of the general good character of my dog, I shall prove that nothing could make him so forgetful of his canine dignity as to bite a calf. 2. He is blind, and can not see to bite. 3. Even if he could see to bite, it would be utterly impossible for him to go out of his way to do so, on account of his severe lameness. 4. Granting his eyes to be good, he has no teeth. 5. My dog died six weeks ago. 6. I never had a dog.

The Armadillo.

During the travels of our friend, Mr. A. O. Moore, in Central America, he obtained the skin or shell of one of these singular animals, which he kindly presented to the office of the *American Agriculturist*. It has been stuffed and placed on exhibition in our window, where it attracts no little attention. In

shape the Armadillo resembles a pig with a long body, short legs and a long tail. The picture above, which we have sketched from him, is a fair likeness. He is covered, except a little of the underside, with a complete coat of mail, composed of horny scales overlapping each other like the shingles on a roof. These are united so as to form three complete bucklers. The two bucklers covering the body, are connected together at the loins of the animal, by movable plates made of the same horny material. This enables him to move about freely. The head is covered with a separate buckler.

The arrangement of the armor so nearly resembles that which was worn by soldiers before the invention of gunpowder, that one would suppose men had obtained their pattern for it from the armadillo, were it not that the creature is not an inhabitant of countries where such armor was worn

He is furnished with sharp strong claws, with which he makes his underground burrow, like the fox, or woodchuck. It is said he can dig so rapidly as to hide himself when pursued, if he have but a little the start. He lives on worms, ants, and flesh of dead animals which he may find. He has no front teeth, and his back teeth are so separated that when the jaws are closed, they fit together like the teeth of a steel trap. He is perfectly harmless, and never even attempts defence when attacked, but tries to escape by running or digging. He is very useful in destroying ants. Being protected from their bites by his armor, he digs boldly into the side of their hills, and makes such havoc that they soon disappear from the neighborhood where he lives.

A Knowing Dog.

A correspondent of the *American Agriculturist* at Union Springs, Ind., relates a "tough story" of a dog at that place. A large number of sheep had been killed in the neighborhood, and an apparently worthless cur, kept at a grocery, was suspected of the crime, though for a long time no proof could be brought against him. But "murder will out," and one day a farmer and his neighbor saw the dog besmeared with blood, in the act of tearing a sheep, which was still alive. As soon as the dog saw he was discovered, he ran to a wood lot about fifty rods north of the spot, and the men at once proceeded to the grocery, which stood half a mile distant in a south-west direction, to inform the owner. To their surprise, on entering the store, they saw there the very animal they had come to complain of, lying on the floor, apparently asleep, as though nothing had happened, and as clean as though just washed. But on examination they found him very warm, and very wet, he having undoubtedly washed himself in a hurry, and run for life to his master. But the evidence was too strong against him. Pity that a dog of such intelligence could not have met a better fate.

Look before you run—Snakes.

When you hear a strange noise, or see some unexpected object, make it a rule to find out what it is, instead of giving way to fear and running as if for life. All sorts of "ghost" stories have started from the silly fright of some coward who had not the courage to examine the cause of his fear. A ludicrous anecdote is related of a man who was mortally afraid of snakes. He had moved into a new country where these reptiles were rather plenty, and for a long time he would scarcely venture into his fields. One fine day he went to examine some oats that were nearly ripe, and took with him an old scythe snath, which he carried over his shoulder, to have it ready for defence if he should meet a snake. Presently, on casting a glance behind him, there appeared a monstrous black snake winding after him. One look was enough, and away he ran, dodging and bounding through the oats, the snake after him, until he was almost dead with fear. As he climbed the fence on the opposite side of the field, he discovered that the supposed snake was only the shadow of his scythe snath. One careful look would have saved him all his fright.

Rocking Babies to Sleep—A Little Girl Out-argues the Editor.

A little girl in Sheboygan Co., Wis., Mimmie B. by name, writes us a little letter on a little sheet, which proves to be a large-hearted letter, and one which takes us quite aback. Her father receives the *Agriculturist*, and she forwards us a dollar from their German girl, who wishes the German edition sent to her father. Mimmie asks as a premium the "Farm of four Acres," or any other book suitable for a little girl of her age (8 years old). So much for the business part—but here is the part of the letter which troubles us. Referring to the article on page 53, Feb. No., in which we advised her to rock babies to sleep, she says: "I do not think you would let a little baby lie and cry all day, if you had one as sweet as ours. He has curly hair, blue eyes, and rosy lips, and will kiss me so sweetly. You don't know what a nice time I have rocking him to sleep; he will nestle down his head beside

me so prettily. Do you think, he ought to cry himself to sleep, when he looks so pretty? Besides, we have no place that he will stay. If we put him in the bed, he will roll off; and if we put him in the crib, he will climb up on the sides, and tumble out. I like the *Agriculturist* very much, but do not like to have little babies abused. Do you not want babies to have any friends, that makes you put them on the bed alone?—I prayed every day for most two years, for God to send me a little brother, and He has sent him; do you think He will be pleased, if I do not love him, and take good care of him? I am afraid, if we treat babies so, that they will not treat us well, when they are grown up. Please tell me, what I shall do."—Well, Mimmie, we can't answer you. Perhaps you are right; but after all, we think the little ones will be just as happy, and love us just as much, if we let them learn to go to sleep without rocking. Swinging them in the cradle or in the arms, disturbs the circulation of the blood—makes it go the wrong way—and although this produces a kind of dizziness that makes them sleepy, it is not good for the brain. Love your little brother by all means, and make him as happy as you can, but do not teach him to lie awake until put to sleep by being made dizzy, for though it may make him happy, it is almost as bad as to make him happy with laudanum. We have more than one sweet little one—as sweet as yours, Mimmie, we think—but we would not give them any laudanum, nor let any one have a cradle to swing or shake them to sleep in.

Uncle John's Study.....V.

BY RALEIGH TRUMAN.

MR. EDITOR.—I was quite well satisfied that you should leave out from the April No. the report of what Uncle John told us about the "Magic Plate," in order to make room for that beautiful song. If I could only set my remarks to music, I am sure they would be more acceptable; for singing is to words, what sugar is in cooking, it makes almost any thing good to take. But I must pass to the explanation of the working of the magic plate, a description of which was published in the March *Agriculturist*, page 89.

Uncle John told us at first, that sight is the effect of light on the eye. We do not know exactly what light is; but we know something of what it can do, and of the ways in which it operates. Thus it is certain that it is reflected from objects to the eye, where it passes through the transparent parts of that organ, and strikes upon the nerves which are spread over its inner and back part, and which form what is called the retina. These nerves, which resemble fine threads, all unite into one larger thread, called the optic nerve, which passes from the eye to the brain. When light affects the retina, the sensation is carried by this nerve directly to the brain, or thinking organ, and the mind perceives the object from which the light was reflected; that is, we see the object. Now, an impression made by light on the nerve, remains a short time, usually a tenth of a second, so that we appear to see an object for that length of time, even after it has been removed, or the eye has been closed. For this reason there is no interruption of sight when a person winks; the eyelid falls and rises quickly, in less than the tenth of a second, and the impression received from an object, continues unchanged. You know that when a coal of fire is whirled round rapidly, it appears to make a ring of light—this is because the fire returns to every part of the circle in less than about the tenth of a second, and before the impression which was made on the eye at any one point, has passed away.

If we were looking at a figure, and it were possible to snatch it away, and put in its place a similar figure, but with its position changed, and this were done in less than a tenth of a second, the last impression would be so mingled with the first, that the mind could not separate them, and it would look as if the figure had of itself moved from one position to the other. This is done with the magic plate. (See page 89, March No.) When the card is twirled rapidly before the looking glass, the

figures are seen one after the other, each succeeding one in a slightly different position from the one before it, so quickly that the impressions from the different objects form one continuous impression, and thus the boy appears to rise over the head of his companion, as though playing at leap frog. Uncle John told us many other interesting facts about seeing, and also about the other senses, but I must not take up too much of your space; and will therefore write no more at present.

New Problems.

No. 8. *Illustrated Rebus*.—It contains a sentiment well worth remembering, and which will be likely to make an impression from the difficulty of reading it. Don't give up easily—it is somewhat difficult.



No. 9.—*Arithmetical Question*.—This is not new, but it may puzzle some who have not seen it before. A man buys a pair of three-dollar boots, and hands the shoemaker a ten dollar bill. Not having change, the shoemaker takes the bill to a neighbor, gets ten one dollar bills for it, and gives the purchaser seven of them, with the boots. The next day the ten dollar bill is returned, being counterfeited, and the shoemaker has to pay for it in good money. How much does he lose by the transaction?

No. 10. *Anagrams*, from Aunt Sue's "Complete Puzzler."

I get dinners.	I attend in pomp.
Ten coons in tar.	Find lies.
Tom's nine hats.	Sin is content.

The letters of each short sentence, if rightly placed, compose a single word. To make out the words, write each letter on a separate slip of paper, and then try to arrange them properly.

No. 41.—*Enigma*.—By George D. B. Kirk, Beaver Co., Pa. A scripture proper name of 17 letters, representing the darkest shade of iniquity:

My 1, 14, 8, 16, 4, 10, is not yet, but will be universally known.

My 4, 11, 3, 13, 5, 12, 7, an ancient city.

My 7, 12, 10, 5, 15, 7, was a person noted for great moral courage.

My 17, 13, 7, is the most important farm animal.

My 12, 9, 17, is essential to successful warfare.

My 10, 3, 6, 17, represent the Humbug "prizes" of the present day.

Answers to Problems.

The list of names is unusually small this month, as we expected; for the Illustrated Rebus, No. 8, was very difficult. Only three, viz. A. C. Siewers, C. L. Siewers, and John G. Forrest have come near it, up to April 18th. The first two omitted but one word. Try again, boys and girls; we will give you more time before publishing the solution.

The following sent in correct answers to previous problems, too late to publish their names in April.

J. B. Andrews, 6; Theodore R. Smith, 5; Emmie and Ellie, 5; Samuel Fleming, 5; H. R. Bishoff, 6; P. Worth, 5; Susan Hart, 5, 6; J. L. Cambridge, 5; W. W. W., 5; Annie E. Littell, 5; (Other answers quite philosophical.) Mary C. Dean, 5; C. L. Siewers, 2.

The Simple Secret.

Twenty clerks in a store; twenty hands in a printing office; twenty young men in a village. All want to get along in the world, and all expect to do so. One of the clerks will rise to be a partner and make a fortune. One of the compositors will own a newspaper and become an influential and prosperous citizen. One of the apprentices will become a master-builder. One of the villagers will get a handsome farm, and live like a patriarch. But which is destined to be the lucky individual? Lucky! There is no luck about it. The thing is almost as certain as the Rule of Three. The young fellow who will distance his competitors is he who masters his business, who preserves

his integrity, who lives cleanly and purely, who never gets in debt, who gains friends by deserving them, and puts his money into a savings bank. There are some ways to fortune that look shorter than this old dusty highway. But the staunch men of the community, the men who achieve something really worth having, good fortune, good name, and a serene old age, all go this road.

MODEL MANNER OF SETTling A LARGE ESTATE.—Seth Thomas, of Hallow, Connecticut, left at the time of his decease, eighteen months ago, property worth from \$400,000 to \$600,000, and six children, who were his heirs. There was no will, and the estate descended in the legal manner to the children equally. They consulted no lawyers, began no scramble, but mutually agreed upon two judicious men, and employed them to divide the property into six portions as nearly equal in value as could be. This done, the portions were put up at auction among them, each buying a portion, and the premiums again were equally divided. In this way the lawyers got no fee, the community no scandal, the peace of the family circle was preserved, and an end arrived at, which gratifies every pure sentiment.

TO CURE A FIT OF ENNUY.—Go into the attic and look over all the old rubbish. You will be sure to find something interesting and something to do.

GOOD FOR THE BLUES.—Go and see the poorest and sickest families within your knowledge.

WHAT TO DO IN A FIT OF THE SULKS.—Think over all the kindnesses you have received, and the manner in which you have repaid them.

TO MAKE CHILDREN MIND.—First consider them as children and not as old folks. Second, never command them to do anything unreasonable.

A Physician at Cincinnati, had for some time been annoyed by depredators who drank up the milk left at his door, at an early hour. One day recently, he put an emet in the pitcher, and soon after the milkman had passed, the doctor found a policeman in a neighboring alley, "making his returns."

"Don't cry, little boy. Did he hit you on purpose?" "No sir—he hit me on the head."

Why is a room full of married people empty? Because there is not a single person present.

Value the friendship of him who stands by you in the storm; swarms of insects will surround you in sunshine.

A sermon in four words on the vanity of earthly possessions: "Shrouds have no pockets."

"Pete, how does your father hamper his sheep, to prevent them from jumping over the fences?" "Oh! that's easy enough; he just cuts a hole through one hind leg, and sticks the other one through it, and then puts the fore legs through that for a pin."

At a late trial, the defendant, who was not familiar with the number of words which the law employs to make a trifling charge, after listening awhile to the reading of the indictment, jumped up and said: "Them 'ere allegations are false, and that ere alligator knows it."

STANDING PREMIUMS For 1861. Vol. XX.

In selecting articles for premiums, we have aimed to get such as are useful and as have been most frequently called for by our readers. We wish it distinctly understood that these premiums are offered in good faith—no cheap, trashy, imperfect, poorly made or second-hand thing, will be sent out, but each article offered, is the best of its kind, and every one will be selected by the publisher from the very best manufactured. They will be the best sold in the market at the prices named.

We offer nothing for competition. Each premium is for a specified number of subscribers, and no one's remuneration will depend upon what other unknown persons are doing. Every one aiming for a premium, knows just what he or she, is working for; and also that if a higher premium is not secured, a lower one can be taken.

The premiums are offered for subscribers for Volume XX (1861), whenever received. Canvasers will have time for completing their lists, but the premium will be paid as soon as any list is made up—if duplicate lists are sent, to refer to at once. Clubs need not be confined to one P. O.

Premium A.

130 Subscribers at 50 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to one of *Wheeler & Wilson's* best \$45 Sewing Machines, (including *Hemmers*) new from the factory, and of the very best make. There is no better family machine than this made, as we have proved by three years' use in our own family. We want no better.—The machines will be selected new at the manufactory, be well boxed, and forwarded with-

out expense to the recipient, except for freight charges after leaving the city. Full instructions for setting up and using, go with each machine.

Premium B.

130 Subscribers at 50 cents each, (or 90 at \$1 each,) will entitle the person getting up the club to a set of *Appleton's New American Cyclopaedia*, now in course of publication, consisting of *fifteen large volumes* of 770 pages each. This is a magnificent work, forming a whole library embracing every topic of human knowledge. Eleven volumes are now ready, and the remaining four will be furnished as fast as issued. Price, \$45.

Premium C.

98 Subscribers at 80 cents each, (or 60 at \$1 each,) will entitle the person getting up the club to one of *Wilcox & Gibbs' \$35 Sewing Machines*, including a set of *Hemmers*. This is the best machine of its kind, (sewing with one thread), and has several points superior to others. It is neat, well made, simple in its operation; and having tested one for some time past in our own family, we can recommend it to those who can not afford to buy the higher priced double-thread machines. (The regular price of this machine is \$30, but we have included in our offer \$5 extra for the set of *Hemmers*, because those used with this machine are very simple and effective, and should go with every one sent out.) The machines given as premiums, will be selected new at the factory, be well boxed, and will be forwarded to the recipient free of expense, except for freight after leaving the city. They will go out set up ready for use, with printed directions for operating.

Premium D.

65 Subscribers at 80 cents each, (or 33 at \$1 each,) will entitle the person getting up the club to one of the New *\$10 Wringing Machines*, described on page 247 of the *American Agriculturist*. This is one of the best labor-saving inventions of the day, and we unhesitatingly say that it will pay to have one to assist in the washing of every family, even if of only moderate size. We would not take \$50 for our machine, if another could not be purchased.

Premium E.

45 Subscribers at 80 cents each, (or 20 at \$1 each,) will entitle the person getting up the club to one of *Kendall's Aneroid Barometers*, described on page 232 of the *American Agriculturist*. This is a good portable instrument, and valuable to every person as a weather guide, as well as for scientific purposes. (New price \$7.50.)

Premium F.

50 Subscribers at 80 cents each, (or 26 at \$1 each,) will entitle the person getting up the club to one of the best *\$8 Straw and Hay Cutters*. (If preferred, the best *\$8 Subsoil Plow* (two-horse) will be given.)

Premium H.

40 Subscribers at 80 cents each, (or 21 at \$1 each,) will entitle the person getting up the club to one of the best *\$6½ Hand Corn Shellers*—a convenient, effective, and useful implement.

Premium I.

30 Subscribers at 80 cents each, (or 16 at \$1 each,) will entitle the person getting up the club to one extra copy of Vol. XX, and also to the 4 previous unbound Volumes of the *American Agriculturist*, (16, 17, 18, 19, sent post-paid.

Premium K.

25 Subscribers at 80 cents each, will entitle the person getting up the club to an extra copy of Vol. XX, and also to any three of the unbound volumes 16, 17, 18, and 19 sent post-paid. 30 Subscribers at 80 cents each to an extra copy of Vol. XX, and two of those volumes. 15 Subscribers at 80 cents each, to an extra copy of Vol. XX, and one of the previous volumes.

Premium L.

30 Subscribers at 80 cents each, will entitle the person getting up the club to an assortment of *Winsor & Newton's Water Color Paints*—consisting of 12 colors, put up in a neat mahogany case, with brushes, etc. These Paints are imported from London, and are by all considered the best in the world. They are adapted to the finest work, or they will make a neat and appropriate present to any of our younger readers. They will be sent post-paid any where within 3500 miles. (If to go to the British Provinces or to the Pacific Coast, the recipient will need to send 84 cents for extra postage above the 6 cents per ounce which we pay.)

Premium M.

15 Subscribers at 80 cents each, will entitle the person getting up the club to an Assortment of *Osborne & Hodgkinson's Water Color Paints*, consisting of 24 colors or shades, put up in a mahogany case with brushes, cups, etc. These are of American manufacture, and though not so fine as the above, they will answer for ordinary practice by children or beginners, and for common sketching. They will also be sent by mail, post-paid. (If to go to the British Provinces, or to the Pacific Coast, \$1.95 will need to be sent by the recipient to pay the extra postage above 6 cents per ounce.)

Premium N.

10 Subscribers at 80 cents each, will entitle the person getting up the club to any one of the four previous unbound volumes (16, 17, 18, or 19,) sent post-paid.

Premium O.

237 Subscribers at 50 cents each (or 125 at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$75 Melodeons* (5 octaves). These Melodeons are of very superior tone and finish. We have ourselves used one (costing \$150) for two years past, and it has given the highest satisfaction, and is pronounced by all who have heard it, as one of the very best. The different priced instruments are of equally good tone—the price varying with

the size and style of finish. The size, prices, etc., of these instruments can be learned particularly by sending a stamp to Geo. A. Prince & Co., Buffalo, N. Y., for an illustrated descriptive catalogue. The instruments given as Premiums, will be sent new directly from the factory at Buffalo, ready boxed, and without extra expense to the recipient, except for freight after leaving the factory.

The above premium list may be made up by the members of a congregation, or Sabbath School, and an instrument thus secured for a church or school-room.

Premium P.

192 Subscribers at 80 cents each (or 105 at \$1 each) will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$60 Melodeons* (4½ octaves). See remarks above.

Premium Q.

130 Subscribers at 80 cents each (or 90 at \$1 each), will entitle the person getting up the club to one of *Geo. A. Prince & Co.'s \$45 Melodeons* (4 octaves). See remarks above. N. B.—Higher priced Melodeons will be given for larger lists, in the same proportion.

Book Premiums.

Valuable Book Premiums.—Instead of the above premiums, any person getting up a club of 20 or more names may choose any desired Books from the list (advertised on page 350 of Nov. No.) to the amount of 12½ cents for each name forwarded at 80 cents, (or 32½ cents for each name sent at \$1), and the books will be sent post-paid. (If to go over 3000 miles, the recipient will need to send 20 cents for extra postage on each dollar's worth of books.) Persons making up a club for any of the above premiums, and getting some names over the required amount, will be entitled to books for the surplus names.

Seeds for Free Distribution in 1861. POSTAGE REDUCED.

We have yet on hand moderate supplies of the seeds named in the revised list below; any subscribers not having already received seeds, can still select four or five parcels. Owing to the reduction of the postage on seeds and cuttings, from six cents, to one cent per ounce, when under 1,500 miles, and two cents per ounce when over 1,500 miles, we have changed the mode of estimating postage.

Subscribers, therefore, who send for seeds hereafter, will furnish envelopes ready directed to themselves, and put on a separate slip of paper (inside the envelope) the numbers referring to such seeds in the catalogue below, as they may desire to receive. Also enclose a one-cent postage stamp for each ounce or under of seed required, if under 1,500 miles, and two cents if to go over 1,500 miles. (Most places west of the Mississippi River are over 1,500 miles from New-York.)

Put no figures or other marks on the envelopes, except your address, or it will be subject to letter postage. Enclose the list of seeds and the stamps carefully, so that they will not fall out of the directed envelope.

(Descriptive Notes upon the following seeds are given on pages 3, 4, and 5, of January number.)

Field Seeds.

No.	Weight of package
140—Imported Giant Wheat.....	One-quarter ounce
2—Improved King Phillip Corn.....	One-half ounce.
3—Stowell's Sweet Corn.....	One-half ounce.
141—Darling's Early Sweet Corn.....	One-half ounce.
142—Yellow Stone Turnip.....	One-quarter ounce
143—Waite's Eclipse Turnip.....	One-quarter ounce
98—Long Red Mangel Wurzel.....	One-half ounce.
101—Improved Long Orange Carrot.....	One-quarter ounce

Vegetable or Garden Seeds.

8—Daniel O'Rourke Pea.....	One-half ounce.
9—Champion of England Pea.....	One-half ounce.
58—Napoleon Pea.....	One-half ounce.
138—Great Eastern Pea.....	One-half ounce.
12—Green Kohl Rabi.....	One-fifth ounce.
13—Enfield Market Cabbage.....	One-fifth ounce.
145—Flat Dutch (Winter) Cabbage.....	One-fifth ounce.
146—Early Battersea Cabbage.....	One-fifth ounce.
147—Neapolitan Cabbage Lettuce.....	One-fifth ounce.
148—Long dark Blood Beet.....	One-fifth ounce.
149—Extra early Bassano Beet.....	One-fifth ounce.
74—Solid White Celery.....	One-fifth ounce.
151—Yellow Danvers Onion.....	One-fifth ounce.
95—True Hubbard Squash.....	One-fifth ounce.
152—Fine large Cheese Pumpkin.....	One-fifth ounce.
153—Large Red Tomato.....	One-fifth ounce.
154—Ice-cream Water Melon.....	One-fifth ounce.
76—Skillman's Netted Musk Melon.....	One-fifth ounce.
103—Sage.....	One-fifth ounce.
155—Long Cayenne Pepper.....	One-fifth ounce.
156—Summer Savory.....	One-fifth ounce.
17—Red Strap-Leaf Turnip.....	One-half ounce.
71—Long White French Turnip.....	One-half ounce.
107—Giant Asparagus.....	One-quarter ounce.

Flower, Fruit, and Ornamental Seeds.

89—Cotton Plant (2 kinds, mixed).....	One-half ounce.
111—Castor Oil Bean (Ornamental).....	One-fifth ounce.

On an average any five of the following varieties will go under a 1-cent stamp.

23—Mignonette, (a.)	166—Lobelia gracilis, (a.)
25—Mixed Nasturtium, (a.)	167—Malope Grandiflora, (a.)
30—Tassel Flower, (a.)	169—Clarkia pulchella, (a.)
31—Chinese Pink, (a.)	170—Evening primrose, (b.)
33—Sweet Pea, (a.)	172—Lunaria biennis, (b.)
43—Candytuft, (a.)	173—Mixed branching Larkspur, (a.)
57—Coreopsis, (a.)	175—Mixed Salpiglossis, (a.)
132—Mixed Canterbury Bells, (a.)	177—Ornamental Grass, (a.)
133—Bellis, (a.)	178—Lathyrus latifolius, (p.)
134—Nigella, (a.)	180—Centauria Americana, (c.)
135—Whitlavia, (a.)	182—Sweet Alyssum, (c.)
136—Long-tubed Centaurea, (a.)	183—Mixed French and German Asters, (a.)
164—Sweet Ageratum, (a.)	

a, annual—b, biennial—p, perennial.

Business Notices.

Eighty Cents a Line of space.



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with Glass-Cloth Presser, Improved Loop-Check, New
Style Hemmer, Binder, Corder, etc.
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"This Machine makes the 'LOCK-STITCH,' and ranks highest, on account of elasticity, permanence, beauty, and general desirableness of the stitching when done, and the wide range of its application."—Report of American Institute, New-York.

ITALIAN BEES.

Orders will now be received for these bees to be delivered at once. A circular will be sent to all applicants enclosing a stamp. In it will be found the terms, and also reports from Mr. Langstroth, Dr. Kirtland, Mr. Brackett, Mr. Baldridge, and others, testifying fully, from actual observation, to the great superiority of this race over the common bee. S. B. PARSONS, Flushing, N. Y.

Stuartia Pentagynia.

PARSONS & CO. have a good stock of this fine plant, noticed and illustrated in the American Agriculturist for February. Price 75 cents each, six dollars per dozen Address Flushing N. Y.

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is to order any thing you want through the Purchasing Agency of H. B. LANE. (See full particulars in advertisement on page 157, and note the guarantee of several of the leading men of New-York.) This Agency is established at the request of many individuals who desire some reliable person to save them from imposition and deception in the purchase of

TREES, PLANTS, PURE SEEDS, PURE GUANO, and other FERTILIZERS, GOOD IMPLEMENTS, etc., etc., etc.

Market Review, Weather Notes, etc.

AMERICAN AGRICULTURIST OFFICE,
New-York, Friday Evening, April 19, 1861.

The market for Breadstuffs has been more active during a month past, with an increase of receipts, sales, and of exports. For the first three months of this year the receipts at this port amounted to 460,000 barrels of Flour; exports to foreign countries 510,000 barrels. Receipts of Wheat, 547,000 bushels; exports 2,903,000 bushels. Receipts of Corn, 584,000 bushels; exports, 2,064,000 bushels. Receipts of Barley, 262,000 bushels; exports, none. Receipts of Oats 265,000 bushels; exports 17,541 bushels. These figures show a large excess of exports of flour and wheat over the amounts received, to say nothing of the reduction of the latter by the demand for home consumption. The stock of flour on hand here is lower than at the corresponding period in any year within our recollection; and as the foreign demand continues brisk it will readily be seen that our market will be so completely exhausted of the principal articles of breadstuffs by the opening of internal navigation that it will be ready for large supplies from the interior. The present and prospective foreign demand is of great importance to our country. Every successive report from Great Britain renders more evident the pooriness of the last harvest, as well as the bad effects upon the next harvest of the rainy season at the Autumn sowing, and the poor weather for wheat during the Winter. It is inevitable that large supplies of flour, wheat, and corn, must be drawn from this country all through the Spring and Summer, and probably during the entire year. Should the next harvest be unusually good upon the continent, and a general European war, now feared, not take place, we shall have competitors in the English markets; but at best this will not happen until

after large amounts of our present surplus have been absorbed. The disturbances in our own country, however, so far as they diminish manufacturing operations in New-England, will lessen the usual home demand.—Our current receipts are still brought forward to tide water by railroad. The canals will not get into full working order before the first week in May, when large supplies will move forward from all parts of the interior. The rate of foreign exchange has advanced somewhat, yet exporters have recently found it difficult to sell their bills drawn against produce shipped to England, and this has embarrassed foreign buyers so much as to lead to a temporary depression in prices, and, as shown by the tables below, the selling rates of wheat and flour, are rather lower than at our last report, though they have fluctuated somewhat during the month. Cotton is higher, owing to the moderate results of the last crop, and the political disturbances, which promise to largely diminish the next crop. The commencement of hostilities just at the planting season, and the necessarily increased breadth devoted to grain, will decidedly interfere with the culture of this staple.... The trade in provisions has improved, particularly in hog products. During the three months ending March 1st, the receipts comprised 30,038 packages of Pork; 7,500 packages of Beef; 45,564 packages of cut meats; 40,500 packages of Lard; 102,576 packages of Butter; and 45,400 packages of Cheese. The exports to all ports during the same period, amounted to 20,254 barrels of Pork; 11,224 tierces and 10,480 barrels of Beef; 32,024,335 lbs. of cut meats; 15,923,944 lbs. of Lard; 8,245,841 lbs. of cheese; and 3,256,106 lbs. of Butter. The above figures show a large increase in both receipts and exports, especially of butter.... Hogs.—We are now in possession of full returns of the pork packing of the past season in the Western States. The total number of hogs slaughtered, was 2,155,702, against 2,354,645, for season of 1859—1860, showing a deficiency in numbers, of 199,943, which deficiency is mainly in the returns from points South of the Ohio River. It appears, however, that there has been an increase in the average weight, equal to 14½ per cent, so that by deducting the decrease in number, 8½ per cent, from this, we have a net increase of 5½ per cent as compared with the previous season. The hog crop of 1860-61, then, compares with some previous years, as follows; 5½ per cent greater than 1859-60; 4 per cent greater than 1858-9; 3½ per cent greater than 1857-8. The yield of lard per hog has been, generally, better than the previous year, but notwithstanding this, owing to the decrease in number of hogs packed, the increase in the quantity, as compared with last year, is not as large as might be at first supposed. The following figures show the comparison and the result, being the aggregate yield for each season, in lbs.: 1860-61, 68,947,274, lbs.; 1859-60, 66,406,738, lbs., giving an increase in 3,540,536 lbs. The average yield per hog this year was 32 lbs., and last year 28½ lbs. Hay has declined, while Rice has advanced, with fair transactions in each.... The movements in other branches of trade have been restricted.

CURRENT WHOLESALE PRICES.

	March 19.	April 19.
Flour—Super to Extra State	\$5 10 @ 5 15	\$5 05 @ 5 10
Superior Western	5 10 @ 5 15	5 05 @ 5 10
Extra Western	5 20 @ 5 25	5 10 @ 5 15
Fancy to Extra Genesee	5 50 @ 5 55	5 45 @ 5 50
Super. to Extra Southern	5 40 @ 5 45	5 30 @ 5 35
Rye Flour—Fine and Super.	3 30 @ 4 10	3 30 @ 4 10
CORN MEAL.	2 20 @ 3 25	2 20 @ 3 15
WHEAT—Canada White	1 42 @ 1 55	1 45 @ 1 60
Western White	1 40 @ 1 60	1 42 @ 1 65
Southern White	1 45 @ 1 65	1 47 @ 1 68
All kinds of Red	1 15 @ 1 35	1 20 @ 1 40
COB—Yellow	61 @ 67	60 @ 70
White	67 @ 73	65 @ 75
Mixed	59 @ 65	61 @ 68
OATS—Western	34 @ 39	34 @ 38
State	34 @ 39	34 @ 38
Southern	31 @ 33	30 @ 35
RYE	63 @ 65	63 @ 65
BARLEY	65 @ 75	60 @ 70
HAY, in bales, per 100 lbs.	75 @ 1 00	70 @ 1 00
COTTON—Middle, per lb.	11½ @ 12½	12½ @ 13½
RICE, per 100 lbs.	3 25 @ 4 00	3 50 @ 5 00
HOPS, crop of 1860, per lb.	13 @ 30	15 @ 35
FEATHERS, Live Geese, p. lb.	38 @ 41	37 @ 43
SEED—Clover, per lb.	13 @ 15	12 @ 14
Timothy, per bushel	4 12 @ 5 50	3 00 @ 5 50
SUGAR—Brown, per lb.	44 @ 7	4 @ 6½
MOLASSES, New Orleans, p. gal.	30 @ 38	32 @ 38
COFFEE, Rio, per lb.	10½ @ 13½	11 @ 14
TORRADO—Kentucky, &c, p. lb.	10½ @ 13½	11 @ 14
Seed Leaf, per lb.	5 @ 25	4 @ 25
Wool—Domestic fleece, p. lb.	28 @ 55	28 @ 55
Domestic, pulled, per lb.	23 @ 43	22 @ 40
YALLOW, per lb.	9½ @ 9½	9½ @ 9½
OIL CAKE, per ton	81 50 @ 87 00	80 00 @ 86 00
PORK—New Mess, per bbl.	16 50 @ 16 00	17 50 @ 17 75
Prime, new, per bbl.	12 50 @ 12 75	13 00 @ 13 25
BEER—Repacked mess	8 50 @ 9 75	8 25 @ 10 25
LARD, in bbls, per lb.	9½ @ 10	9½ @ 10½
BUTTER—Western, per lb.	10 @ 15	10 @ 15
State, per lb.	14 @ 19	14 @ 19
CHEESE	8 @ 10½	8 @ 10
Eggs—Fresh, per dozen	15 @ 14	15 @ 14
POULTRY—Fowls, per lb.	11 @ 12	14 @ 16
Geese, per lb.	2½ @ 9	8 @ 10
Ducks, per lb.	12 @ 15	15 @ 18
Turkeys, per dozen	10 @ 13	12 @ 16
Wild Pigeons, per doz.	50 @ 60	50 @ 60
APPLES, Prime, per bbl.	1 75 @ 2 00	1 50 @ 1 75
Medium, p. bbl.	1 25 @ 1 50	1 25 @ 1 50
Common, per bbl.	1 00 @ 1 25	1 00 @ 1 25
Extra Dessert Apples	2 00 @ 3 00	2 00 @ 2 75
Dried Apples, per lb.	2 @ 4	2 @ 3
Dried Peaches, per lb.	9 @ 12	8 @ 12
Dried Cherries, pitted, per lb.	14 @ 15	12 @ 13
Dried Raspberries, per lb.		12 @ 13

POTATOES—Mercers, per bbl.	2 00 @ 2 25	1 75 @ 2 25
Nova Scotia, per bushel	62 @ 67	62 @ 65
Dykeman and Buckeye, p. bbl.	1 13 @ 1 25	1 13 @ 1 25
Peach Blows, p. bbl.	1 87 @ 2 00	1 75 @ 2 00
ONIONS, Red, per bbl.	1 13 @ 1 25	1 13 @ 1 25
White, per bbl.	2 00 @ 3 50	2 50 @ 3 50
TURNIPS, per bbl.	50 @ 60	50 @ 60
CABBAGES, per 100	3 00 @ 4 50	4 00 @ 6 00
Spinach, per bbl.		1 25 @

TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
26 days this month	238,500	381,500	383,000	5,000	128,000	146,000
24 days last month	156,000	128,000	274,000	7,500	115,000	125,500
SALES.	Flour.	Wheat.	Corn.	Rye.	Barley.	Oats.
26 days this month	467,000	2,479,000	1,920,000	26,000	10,000	10,000
24 days last month	310,000	1,327,000	1,576,000	14,300	51,300	

Exports of Breadstuffs from New-York, January 1, to April 10.	1860.	1861.
Wheat Flour, bbls.	176,508	549,563
Rye Flour, bbls.	3,403	2,864
Corn Meal, bbls.	24,670	23,095
Wheat, bushels	143,020	3,116,230
Corn, bushels	157,151	2,170,491
Rye, bushels	100	
Barley, bushels		1,000
Oats, bushels		17,791

Comparative statement of the number of hogs packed, in each of the last two seasons, in the Western States.

	1859-60.	1860-61.
Ohio	681,908	624,708
Indiana	406,595	368,031
Illinois	503,735	519,991
Kentucky	322,487	251,896
Missouri	190,660	180,973
Tennessee	26,800	400
Iowa	166,623	169,394
Wisconsin	55,827	54,410

Grand total number packed.... 2,354,645 2,155,702

N. Y. Live Stock Markets.—THE CATTLE MARKETS have been largely supplied with beefs, during the past five weeks; the total being 21,094, or an average of 4,381—a gain of more than 900 head per week over last month. The stock has generally been heavy, so that the increase in meat is large. Prices have declined fully 1c. per lb. during the time. At the last general market, April 16th, with 4,518 on sale prices ranged from 8½c. to 9c. per lb. estimated dressed weight, for choice animals, 7½c. @ 8½c. for good; and 6c. @ 7c. for poor. The average of all sales being 7½c. to 7¾c. The stock was barely sold out at a decline of ½c. from the previous week.

VEAL CALVES.—Receipts are largely on the increase and veals will continue to come in freely for a month longer. For the past five weeks the numbers foot up 3,694 or 739 per week, being nearly double the receipts of last month. Prices are low, ranging from 3c. to 4c. per lb. live weight for poor calves. 4½c. @ 5c. for good, with a very few extras at 5½c.—an occasional one at 6c. Market very dull.

SHEEP.—Receipts about as last month, or an average of 6,436 per week. Prices are lower, being equal to about 5½c. @ 5¾c. per lb. live weight for wool sheep, and 4c. @ 5c. for shorn sheep. Spring Lambs are beginning to arrive, and are in demand at about \$5 per head, for those dressing 30 lbs.

LIVE HOGS.—Receipts do not vary from last month, the weekly average being 6,912. Prices are ½c. lower, or 5c. @ 5½c. per lb. live weight for corn fed hogs; and 4½c. @ 4¾c. for still fed hogs. Demand inactive, and market more than supplied.

The Weather has recently been less Spring-like than usual at this season, or not as much so as appearances indicated two months ago. There have been very few days of warm weather for a month past—OUR DAILY WEATHER NOTES, condensed, read thus:—March 20, clear, cold, mercury 19°, snow at night—21, snow all day, part of it melting, but making one of the severest storms of the season—22, one foot snow on ground, and railroads badly blocked by deep drifts; the day clear and fine—23, clear, warm, snow fast going—24, 25, 26, clear, fine, snow gone—27, thunder shower A. M., ending in a severe rain storm—28 to 31, clear, fine—April 1, cloudy A. M., snow, and rain P. M., and at night—2, clear A. M., cloudy P. M.—3, cloudy—4, 5, 6, clear, fine, frogs heard—7, cloudy, A. M., clear P. M.—8 to 11, clear, fine, but rather cool—12, cloudy—13, rain—14, clear—15, clear A. M., cloudy, with light rain, P. M.—16, heavy soaking rain—17, barometer at lowest point (29 inches) reached for a year past; rain A. M., cloudy, cold with high winds P. M.—18, clear and cool, A. M. (32°), cloudy P. M., rain at night—19, passing clouds, chilly.

Thermometer at 6 A. M., New-York.

[Observations carefully made upon a standard Thermometer (Fahrenheit.)—r indicates rain, s, snow.]

MARCH.											
1.....50r	8.....17	15.....20	22.....30	29.....36							
2.....44	9.....40r	16.....31	23.....31	30.....47							
3.....45	10.....36	17.....42	24.....39	31.....26							
4.....45	11.....36	18.....17s	25.....31								
5.....35	12.....39	19.....17s	26.....40r	Average 31							
6.....25	13.....30r	20.....18s	27.....40r								
7.....15	14.....30r	21.....35s	28.....40r								
APRIL.											
1.....34s	4.....32	7.....40	10.....34	13.....51r							
2.....35	5.....35	8.....40	11.....37	14.....40							
3.....33	6.....41	9.....36	12.....40	15.....40							

SPECIAL EDITION For the PACIFIC COAST.

An Extra Early Edition of the *American Agriculturist*, for subscribers in California, Oregon, Washington Territory, and the Sandwich Islands, is regularly issued on the evening of the 20th of each month, to go by the mail Steamer leaving N. Y., on the morning of the 21st.

Postage Reduced on Seeds and Cuttings.

We are happy to announce to our subscribers, that the postage on all kinds of seeds, and on cuttings, or clones, is now reduced from 6 cents, to 1 cent per ounce, when sent less than 1500 miles, and from 20 cents, to only 2 cents per ounce on all distances over 1500 miles.

This will greatly facilitate our sending seeds to our distant subscribers hereafter. It is now too late to take advantage of this reduction the present spring. Those who have not yet had seeds from this office, who may receive this notice in Season to send for the turnip seed (page 134) might yet apply for it.

Those forwarding a new subscriber may apply for an ounce or two which will be cheerfully forwarded as a premium.

The Premiums

Offered on page 160, will close July 1st. Additional time, however, will be allowed for persons living too remote to send in prior to that time.

The Postage on the *Agriculturist* is positively only Six Cents a Year.

We hear that several Post Masters are charging 12, 18, 36, and even 72 cents a year on the *Agriculturist*. This is wrong. The law expressly says that a Periodical issued at stated periods, and not weighing over 3 ounces avoirdupois, shall be charged one cent per number, and only half this sum if paid quarterly in advance. The paper for the *Agriculturist* is purposely manufactured so that it shall weigh a small fraction less than three ounces. We would add an occasional extra page for more advertising room, could we do so without increasing the postage to our subscribers. The Post Master has several times decided that the postage on the *Agriculturist* is only six cents a year. See one of these decisions on page 96, volume XVII. There has been no change in the law or in the weight of the paper since. The paper must be weighed dry and without the wrapper. Subscribers will please inform us of any future over charge.

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We have complete sets of Vols. 16, 17, 18, and 19, bound separately in neat covers, with gilt lettered backs—also any two of these consecutive volumes bound together in one cover.

PRICES AT THE OFFICE.

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(They can not go unpaid.)

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BINDING.—Sets of numbers brought to the office will be bound up neatly (in our regular style of binding the *Agriculturist*) for 50 cents a volume.

PREPARED COVERS.—Covers for binding, neatly made, with title, etc., gilt upon the back, ready for the insertion of the sheets by any bookbinder, can be furnished for Vols. 12, to 19 inclusive, at 25 cents per cover. Covers can not go by mail.

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Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

TERMS.—(Invariably cash before insertion):

FOR THE ENGLISH EDITION ONLY.

Fifty cents per line of space for each insertion.
One whole column (145 lines), or more, \$60 per column.
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Fifty five cents per line; \$45 per column.
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THE LIVING HOME for sick or well, and **THE HOME FOR INSANE**, institutions recommended by all classes of physicians, and incorporated by the State, are now in successful operation near Wilmington, Del., at very moderate prices.

For circulars address **DR. J. A. BROWN,** Wilmington Del.



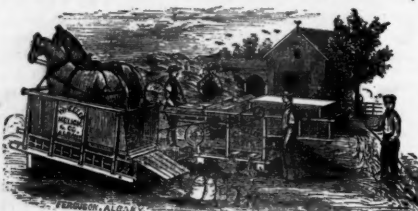
**POSTAGE FREE,
Excepting Peas, Beans and Corn.
Priced Lists and Garden Almanac on
Application.**

**H. BUIST & SON,
SEED GROWERS AND NURSERYMEN,
Warehouse 922 and 924 Market-st.,
PHILADELPHIA, Pa.**

ITALIAN BEES.

Having imported per steamer New-York a lot of genuine Italian Bees, (which arrived in a remarkably good state,) I shall be able to furnish Amateurs with pure genuine ITALIAN QUEENS within a short time. For price and other information, apply to C. WM. ROSE, 63 Exchange-place, New-York, N. B. This being the last and only importation this season, the public can rely on getting a perfectly pure breed. Agents wanted.

New-York State AGRICULTURAL WORKS,



Wheeler, Melick & Co.,

PROPRIETORS, ALBANY.

Manufacture Wheeler's Patent Railway Chain

HORSE POWERS,

(FOR 1 OR 2 HORSES.)

PLANTATION HORSE POWERS,

(4 HORSE, OR 6 MULE, LEVER.)

Wheeler's (Improved) Patent Combined

THRESHER AND WINNOWER,

(No. 1, 30 INCH, and No. 2, 26 INCH CYLINDERS.)

Overshot Thresher and Separator, and other Farming Machines for Horse Power use.

The subscribers are inventors of all the above Machines, and give their entire attention to the manufacture of them; and having had the longest and largest experience of any firm in this business, feel warranted in saying that their MACHINES ARE UNEQUALLED. They call especial attention to their

Improved THRESHER & WINNOWER, Of which over 400 were sold in 1860, satisfying all purchasers of their superiority and economy for THRESHING, SEPARATING AND WINNOWERING, AT ONE OPERATION.

Circulars, containing list of Prices, and full description, and Cuts of each Machine, with statements of their capacities for work, will, on application, be sent by mail, postage free.

Liberal discounts are made to dealers. Responsible agents are wanted in sections where we have none. Address

**WHEELER, MELICK & CO.,
ALBANY, N. Y.**

THE PATENT CYLINDER PLOW,

The lightest draught and best

Sward and Turning Plow

ever invented. Price—No. 1, \$11; No. 2, \$12; No. 3, \$13. For sale in this city only by

R. L. ALLEN, 189 and 191 Water-st., New-York.

A BONE MILL, WITH GEARING COMPLETE, for sale by **ELLIMAN BROTHERS,** 217 Pearl-st., New-York.



THE HYDROPULT.

Just the thing for Village Fire Companies. It takes the place of expensive engines, engine houses, etc., and is at the same time invaluable for home use in watering gardens, washing windows and carriages, destroying insects, etc., etc. Many villages are being supplied. Read the following from a business letter just received:

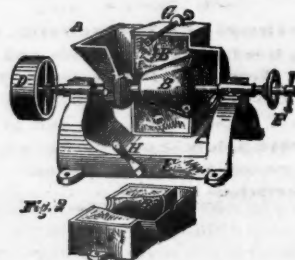
JAMESTOWN, Chautauque Co., N. Y., April 12, 1861.

AMERICAN HYDROPULT CO., 151 Nassau-st., N. Y.

At what price will you sell the Hydropults per dozen. We wish to form a fire company of 30 to 50 members to use them. From good effects witnessed in this vicinity we believe they would be very efficient. A few weeks since in this town a fire was discovered burning in a store between the plastering and siding, and near the top of the building, where it could not be reached with water thrown from buckets. Fortunately one of your Hydropults was brought, and the flames were soon extinguished, and probably from fifty to one hundred thousand dollars worth of property was saved. Ten nights after this a large fire occurred here, destroying about \$300,000 worth of property, during which a block of buildings on the opposite corner was saved by the Hydropult. On another adjoining corner, fire caught under the eaves of the building, but engines, ladders, and Hydropults were busy elsewhere, and the entire block went down. In two other cases since, the instrument rendered great service in protecting the adjoining property: in one it saved the building that first took fire. For further particulars of these incidents refer to prominent citizens of this place. L. P. JUDSON.

Numerous similar testimonials, including certificates from Engineers, Fire Wardens, etc., may be seen at our office. Price \$12. A liberal discount to dealers.

Address **AMERICAN HYDROPULT CO.,** 151 Nassau-st., New-York.



EXCELSIOR MILL FOR FARMERS AND MILLERS.

The grinding surfaces of this Mill are BURR STONE, of conical form, (see Cut above,) so adjusted that the finest flour and the coarsest feed may be ground with the same Mill. Any person can dress the stones with an ordinary pick in one hour. Will grind 3000 bushels of grain before requiring to be redressed, and

WILL LAST A LIFE TIME.

With Horse Power, our small Mill will grind six bushels of feed the hour; if run by Water or Steam Power, from ten to fifteen bushels.

Price of No. 1 Mill for Farmer's use, \$100
Price of No. 2 Mill for Miller's use, 140
Price of No. 3 Mill for Miller's use, 170
The undersigned also make a Wire Bolt for No. 1 Mill, with which Farmers living at a distance from mills are enabled to make their own flour. Price \$50.

ANTI-FRICTION HORSE POWER.

FOR DRIVING FARM MILLS, THRESHING MACHINES, COTTON GINS, CIRCULAR SAWS, MOULDING AND PLANING MACHINES, LATHES, ETC., ETC., ETC.

This power has proved itself to be the best ever invented. The friction is reduced by IRON BALLS, so arranged in all the bearings, that the whole weight of the castings runs upon them. THREE AND A HALF pounds draught at the end of a ten feet lever, will keep it in motion! More than TWENTY FIVE PER CENT of horse flesh is saved, over any other power in use. It is simple in construction, and not liable to get out of order.

Price of Power for 1 or 2 horses, \$125

Price of Power for 4 or 6 horses, 175

Call and examine them, or send for Circular.

Agents wanted. County and State Rights for sale.

BENNETT BROTHERS, 42 and 44 Greene-st., near Canal, New-York.

AGRICULTURAL AND HORTICULTURAL

IMPLEMENTS.—A complete assortment of latest approved patterns and best made. Farming Implements, Machines, and Tools, consisting of everything required by the Farmer, Planter, and Gardener.

FERTILIZERS.—Best quality of PERUVIAN AMERICAN, and MANUFACTURED GUANO BONE DUST, coarse and fine sawings, PHOSPHATE, FOSPHETTE, PLASTER. Field, Flower, Garden, Fruit and Shrub SEEDS. Trees, Plants, and Shrubs, all of most reliable quality.

R. L. ALLEN, 189 & 191 Water-st., New-York.

ENDLESS CHAIN HORSE POWERS,

THRESHERS, SEPARATORS, and CLEANERS. SAW-MILLS and SAWS, the best in the world, WARRANTED TO GIVE SATISFACTION.

SHARE'S COULTER HARROWS & SEED COVERERS, and

Wilson's Patent Hay Cutters,

Send for Circular to **CHAS. E. PEASE,** 84 State-st., Albany, N. Y.

**A RELIABLE AGENCY
FOR PURCHASING
Implements for the Farm,
Garden and Household,
SEEDS,
ARTICLES OF MERCHANDISE,
ETC., ETC., ETC.**

**ALL ARTICLES PURCHASED
WARRANTED TO BE OF THE
BEST QUALITY.**

**No Charge made to Purchasers,
BEYOND THE
Lowest Regular Price.**

The subscriber would respectfully inform the public, that at the suggestion and particular request of a number of gentlemen (including the Editor of the *American Agriculturist*) he has opened at

42 Park Row, New-York City,
(under the Publication Office of the N. Y. Daily Times.)

A Purchasing and Commission Agency,
for the purpose of receiving and executing orders from those who may wish any article which they can not conveniently obtain direct from known reliable dealers; such as:

GOOD BOOKS; also

Agricultural and Horticultural Implements, Good Fertilizers, Fruit and Ornamental Trees and Plants, Seeds, Household Articles—In short, anything to be procured in New-York City and at other accessible points.—Special attention will also be given to procuring **Sewing Machines.**

Subscriptions for all good periodicals will also be received at the usual subscription price.

If persons at a distance send their orders through this agency for anything not believed to be valuable, the money will be promptly returned. The invariable rule in the transaction of all business will be, **Promptness, Integrity, and a strict regard for the interests of the purchaser.**

Persons coming to the City may leave their orders at the Office, and the desired articles will be procured with all convenient dispatch, and brought to the office to be called for, or be forwarded by express, or otherwise, as directed.

No charge will be made beyond the lowest regular price of the article purchased—as dealers have kindly offered to allow a wholesale discount to this Agency, sufficient to cover the expense of supporting it, especially as all transactions will be strictly for cash.

All orders should be as plain and definite as possible, describing particularly what is wanted, and in all cases state exactly how it is to be forwarded.—Send as nearly as possible the exact amount to be paid for it. If not certain on this point, either inquire by letter for the cost, or send enough to cover all expenses; and any surplus will be returned with the bill. Articles can not be sent out on credit. When a reply is needed, a postage stamp should be enclosed.

Address all Orders and communications to

HARVEY B. LANE,
No. 42 Park Row, New York City.

REFERENCES.

TO WHOM IT MAY CONCERN.

New-York, March 20th, 1861.
We take pleasure in testifying to the well known Business Ability and Integrity of HARVEY B. LANE. His Education and Habits peculiarly fit him for the New Enterprise which he is starting; and we do not hesitate to say that any business that may be entrusted to his care will be conducted with strict fidelity and for the best interests of those who may patronize him. Signed:

DANIEL DREW, Esq. New-York City.
FRANCIS HALL, Esq. Editor of N. Y. Com. Advertiser.
ORANGE JUDD, Esq. Editor of American Agriculturist.
WM. B. SKIDMORE, Esq. Treasurer Erie R. R. Long Dock Co.
HON. GEO. T. COBB, M. C. Morrisdom, N. J.
MESSRS. HARPER & BRO. Publishers, New-York.
MESSRS. CARLTON & PORTER. Methodist Book Concern, N. Y.
RALPH MEAD, Esq. No. 11 Coenties Slip, New-York.
A. V. SPOFF, Esq. President Shoe & Leather Bank.
HENRY J. BAKER, Esq. 181 Pearl-street, New-York.
LEWIS B. LODER, Esq. Firm of Loder & Co.
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**HOMES FOR THE INDUSTRIOUS,
IN THE
Garden State of the West.**

THE
ILLINOIS CENTRAL RAILROAD COMPANY
HAVE FOR SALE

1,200,000 ACRES OF RICH FARMING LANDS
In
TRACTS OF FORTY ACRES AND UPWARD,
On

LONG CREDIT AND AT LOW PRICES.

The attention of the enterprising and industrious portion of the community is directed to the following statements and liberal inducements offered them by the ILLINOIS CENTRAL RAILROAD COMPANY, which, as they will perceive, will enable them, by proper energy, perseverance, and industry, to provide comfortable homes for themselves and families, with, comparatively speaking, very little capital.

I. LANDS OF ILLINOIS.

No State in the Valley of the Mississippi offers so great an inducement to the settler as the State of Illinois. There is no portion of the world where all the conditions of climate and soil so admirably combine to produce those two great staples, **CORN and WHEAT**, as the Prairies of Illinois.

II. EASTERN AND SOUTHERN MARKETS.

These lands are contiguous to a railroad 700 miles in length, which connects with other roads, and navigable lakes and rivers, thus affording an unbroken communication with the Eastern and Southern markets.

III. RAILROAD SYSTEM OF ILLINOIS.

Over \$100,000,000 of private capital have been expended on the railroad system of Illinois. Inasmuch as part of the income from several of these works, with a valuable public fund in lands, go to diminish the State Expenses, the **TAXES ARE LIGHT**, and must, consequently, every day decrease.

IV. THE STATE DEBT.

The State Debt is only \$10,105,398 14, and, within the last three years, has been reduced \$2,959,746 80; and we may reasonably expect that in ten years it will become extinct.

V. PRESENT POPULATION.

The State is rapidly filling up with population; 868,036 persons having been added since 1850, making the present population 1,719,496—a ratio of 102 per cent in ten years.

VI. AGRICULTURAL PRODUCTS.

The Agricultural Products of Illinois are greater than those of any other State. The Products sent out during the past year exceeded 1,500,000 tons. The wheat crop of 1860 approaches 35,000,000 of bushels, while the corn crop yields not less than 140,000,000 bushels.

VII. FERTILITY OF THE SOIL.

Nowhere can the industrious farmer secure such immediate results for his labor as upon these prairie soils, they being composed of a deep, rich loam, the fertility of which is unsurpassed by any on the globe.

VIII. TO ACTUAL CULTIVATORS.

Since 1854, the Company have sold 1,300,000 acres. They sell only to actual cultivators, and every contract contains an agreement to cultivate. The road has been constructed through these lands at an expense of \$30,000,000. In 1850, the population of the forty-nine counties through which it passes was only 335,598, since which 479,293 have been added, making the whole population 814,891—a gain of 143 per cent.

IX. EVIDENCES OF PROSPERITY.

As an evidence of the thrift of the people, it may be stated that 600,000 tons of freight, including 8,600,000 bushels of grain and 250,000 barrels of flour, were forwarded over the line last year.

PRICES AND TERMS OF PAYMENT.

The prices of these lands vary from \$6 to \$25 per acre, according to location, quality, &c. First-class farming lands sell for about \$10 or \$12 per acre; and the relative expense of subdividing prairie land as compared with wood land is in the ratio of 1 to 10 in favor of the former. The terms of sale for the bulk of these lands will be

ONE YEAR'S INTEREST IN ADVANCE

at six per cent per annum, and six interest notes at six per cent, payable respectively in one, two, three, four, five, and six years from date of sale; and four notes for principal, payable in four, five, six, and seven years from date of sale; the contract stipulating that one-tenth of the tract purchased shall be fenced and cultivated each and every year, for five years from the date of sale, so that at the end of five years one-half shall be fenced and under cultivation.

TWENTY PER CENT WILL BE DEDUCTED

from the valuation for cash, except the same should be at six dollars per acre, when the cash price will be five dollars.

Pamphlets descriptive of the lands, soil, climate, productions, prices, and terms of payment, can be had on application to

**J. W. FOSTER, LAND COMMISSIONER,
ILLINOIS CENTRAL RAILROAD,
Chicago, Illinois.**

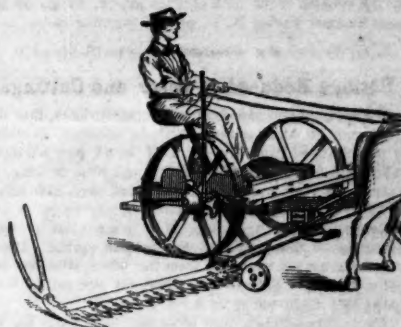
For the names of the Towns, Villages, and Cities situated upon the Illinois Central Railroad see pages 188, 189, 190, Appleton's Railway Guide.

BUCKEYE MOWER

WITH FLEXIBLE FOLDING-BAR.

The unprecedented success of this machine is a convincing proof of its excellence. It has never failed, wherever introduced, to take precedence over all other Mowers, and the important principles COVERED BY ITS PATENTS are now universally conceded to be indispensable to a

PERFECT MOWER.



IN THE FIELD.

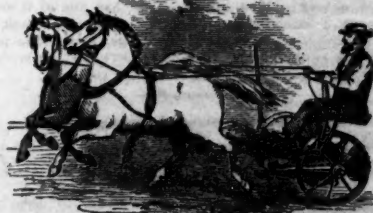
This concession is in the strongest manner attested by the fact that so many mowing machine manufacturers, abandoning their own patterns, are now modelling after the BUCKEYE in all points where they think it possible to evade its patents, and the popularity of their machines is found to be in exact proportion to the extent of their imitations and infringements.

The farmer who contemplates purchasing a mower for the harvest of 1861 will, in selecting the Buckeye, secure the only machine which

COMBINES ALL THE REQUISITES

of a perfect Mower, including strength, durability, simplicity, lightness of draft, freedom from side-draft, portability, convenience, perfect adaptation to uneven surface, ease in backing and turning, safety and comfort to the driver, ease to the team, and capability of doing **Good Work on any Description of Land,** and in any variety or condition of grass.

TO THE BUCKEYE WAS AWARDED THE FIRST PREMIUM GRAND GOLD MEDAL, BY THE UNITED STATES AGRICULTURAL SOCIETY, AT THE GREAT SYRACUSE FIELD TRIAL IN JULY, 1857.



JR. BUCKEYE ON THE ROAD.

THE FOLLOWING LIST, COMPRISING A FEW OF THE PROMINENT PREMIUMS AWARDED TO THE BUCKEYE DURING THE SEASON OF 1860, WILL SERVE TO INDICATE THE POSITION IT OCCUPIES IN ALL SECTIONS OF THE COUNTRY.

New-York State Agricultural Society, 1st Premium as Best Mower.
Pennsylvania State Agricultural Society, 1st Premium as Best Mower.
Maryland State Agricultural Society, 1st Premium as Best Mower.
Virginia State Agricultural Society, 1st Premium as Best Mower and Reaper Combined.
Indiana State Agricultural Society, 1st Premium as Best Mower.
Tennessee State Agricultural Society, (Field Trial,) 1st Premium as Best Mower.
Tennessee State Agricultural Society, (Field Trial,) 1st Premium as Best Combined.
Kentucky State Agricultural Society, 1st Premium as Best Mower.
Kentucky State Agricultural Society, 1st Premium as Best Reaper.
Kentucky State Agricultural Society, 1st Premium as Best Combined.
Monmouth Co., (N. J.), Field Trial, 1st Premium as Best Mower.
Hampshire, Franklin and Hampden (Massachusetts) Agricultural Society, 1st Premium as Best Mower.
Mass. Char. Mechanics Association, Boston, Silver Medal & Diploma, (their highest award.)

Farmers wishing to avoid disappointment will give their orders early in the season.

Circulars, with full description and testimonials, forwarded by mail.

C. AULTMAN & CO., JOHN P. ADRIANCE,
Patentees and Manufacturers, Manufacturer and Proprietor,
Canton, Ohio. Foxkepsie, N. Y.
Sole Warehouse in New-York, 165 Greenwich-street, near Courtlandt-street.

Worcester's Quarto Dictionary

VERY SIGNIFICANT FACTS.

The following recommendations are from some of the most distinguished American and English scholars. They are but a few from many which have been received, testifying to the superiority of

Worcester's Quarto Dictionary.

These testimonials are of the highest value, for they have all been given during the present year, and after an examination of this work and of that which is endeavoring to hold the position of a rival. The scholars of America and of England, with scarcely an exception, have decided in favor of Worcester. Not a single scholar, equal in authority to any one mentioned below, can be cited as giving, after a comparison of the two works, the preference to Webster's Dictionary. We give the testimony:—

From HERBERT COLERIDGE, Secretary of the London Philological Society, England.

Your magnificent present reached me here at length safely yesterday, and I lose no time in returning you my cordial thanks for your kindness. The London agents of your publishers, in their letter to me (which I got before the book itself), described it as a new edition of Webster, and I hardly felt inclined to be very grateful, as my opinion of Dr. Webster is but small; and my surprise and pleasure were consequently all the greater when I found out what I had really become possessed of.

As a work of practical utility, your book appears to me to be nearly perfect, and I expect to derive immense assistance from it.

From C. C. FELTON, LL.D., President of Harvard College.

Aware of the labor and care which had been devoted to this (the department of scientific terms) as well as to other parts of the work, I felt assured that Worcester's Quarto Dictionary would more nearly meet the public wants than any other hitherto published.

My expectations have been more than fulfilled. I find it not only rich beyond example in its vocabulary, but carefully elaborate in all the details, and thoroughly trustworthy as a guide to the most correct and elegant usage of the language.

From the REV. JOSEPH BOSWORTH, D.D., F.R.S., Professor of Anglo Saxon, Oxford, England.

It is the most complete and practical, the very best, as well as the cheapest English Dictionary that I know.

From GEORGE P. MARSH, LL.D., Author of Lectures on the English Language.

The work of Dr. Worcester is unquestionably much superior to any other general dictionary of the language in every one of these particulars (orthography, pronunciation, definition, fullness of vocabulary, and precision and distinctness of definition.)

From Rev. W. WHEWELL, D.D., Master of Trinity College, England.

I have repeatedly consulted the Dictionary, since it has been in my possession, and have seen reason to think it more complete and exact than its predecessors.

From CHARLES RICHARDSON, LL.D., the oldest living English Lexicographer, England.

I sincerely hope you may enjoy from your brethren, both in America and England, that tribute of honor to which you have earned so undoubted a title.

From D. R. GOODWIN, D.D., Late President of Trinity College, Hartford.

It was but a short time since that I was led to commend another dictionary as, on the whole, and with some exceptions, the best and most complete thing of the kind within my knowledge. The commendation was honestly given at the time; but now it must be withdrawn in favor of yours. I consider your dictionary, in orthography, pronunciation, and definitions, as superior to any of its predecessors.

From Rev. W. B. SPRAGUE, D.D., of Albany, N. Y.

My opinion of Worcester's Quarto Dictionary, after having given it as extended an examination as my circumstances would admit, is, that there is no other dictionary in the language, that compares with it for completeness, accuracy, comprehensiveness, and precision, and perhaps I ought to add, that I have arrived at this conclusion rather contrary to a preconceived opinion.

From Rev. HENRY A. BOARDMAN, D.D., of Philadelphia.

I particularly like it (the Dictionary), 1. Because of its very comprehensive character; 2. Because it adheres to the settled orthography of our noble language—discarding those innovations which, however countenanced by certain publishing houses, have never to any extent been accepted by the scholars of our country.

From Hon. ROBERT C. WINTHROP, Boston.

I can add nothing to the tributes which have been paid to this work, both at home and abroad; but I may offer you my best thanks for having supplied us with a Dictionary so indispensable to every one who writes or speaks the English language.

From THOMAS CARLYLE, England.

So far as I have examined, it is a most lucid, exact, comprehensive, altogether useful-looking Dictionary; the definitions of meaning are precise, brief, correct; the word-cuts occasionally a great help; new fields are opened with suc-

cess; every thing is calculated for conveying information by the directest road.

From Hon. F. W. RICE, State Superintendent of New-Jersey.

Although I have many other Dictionaries at hand, I find in the use of this the greatest economy of time and labor.

From CHARLES DICKENS, England.

It is a most remarkable work, of which America will be justly proud, and for which all who study the English language will long have reason to respect your name, and to be grateful to you.

From LOUIS AGASSIZ, LL.D.

It is of great importance, when the nomenclature of science is gradually creeping into common use, that an English lexicon should embrace as much of it as is consistent with the language we speak. I am truly surprised and highly delighted to find you have succeeded far beyond my expectations in making the proper selection, and combining with it a remarkable degree of accuracy. More could hardly be given except in a scientific cyclopedia.

The following lines are quoted from Harper's Magazine for September. They serve to show very truthfully the comparative value of recent and old commendations:—

"INJUSTICE.—Our attention has been called to a species of injustice of which publishers are sometimes guilty, in publishing commendations of school-books, without giving the dates when they were written. Especially does this merit reproof when these commendations are old, and when it is known that the writers have subsequently commended other and later publications in the same department. It will readily be seen that this is frequently not only an act of injustice to teachers who have had the courtesy to commend a book, but that it is also a fraud upon the public."

SWAN, BREWER, & TILSTON,
181 Washington-st., Boston, Mass.

BOOKS FOR FARMERS AND OTHERS.

[Any of the following books can be obtained at the office of the *Agriculturist* at the prices named, or they will be forwarded by mail, post paid, on receipt of the price. Other books not named in the list will be procured and sent to subscribers when desired, if the price be forwarded. All of these books may well be procured by any one making up a library. Those we esteem specially valuable are marked with a *.]

American Bird Fancier.....	\$0.25
American Farmer's Encyclopedia.....	4.00
American Weeds and Useful Plants.....	1.50
Allen's (R. L.) American Farm Book.....	1.00
Allen's Diseases of Domestic Animals.....	1.00
Allen's (L. F.) Rural Architecture.....	1.25
Allen on the Culture of the Grape.....	1.00
American Architect.....	6.00
American Florist's Guide.....	1.25
Barry's Fruit Garden.....	1.75
Bement's (C. N.) Rabbit Fancier.....	25
Bousingault's (J. B.) Rural Economy.....	1.25
Bridgeman's Young Gardener's Assistant.....	1.50
Bridgeman's Kitchen Garden Instructor.....	60
Bridgeman's Florist's Guide.....	60
Bridgeman's Fruit Cultivator's Manual.....	60
Breck's (Joseph B.) Book of Flowers.....	1.00
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